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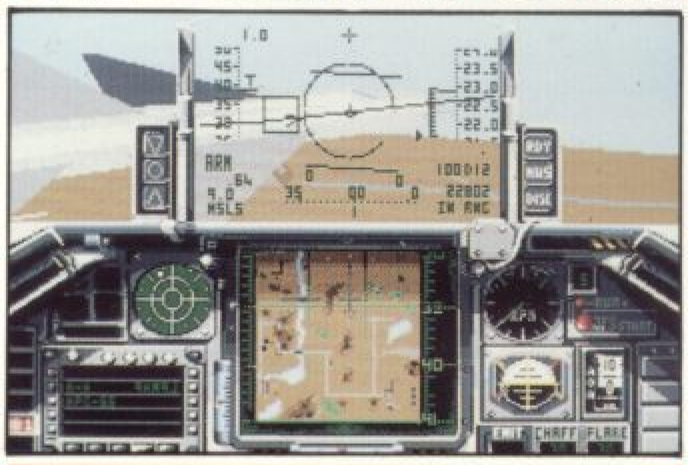
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The Games

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## THIS ISSUE . . .

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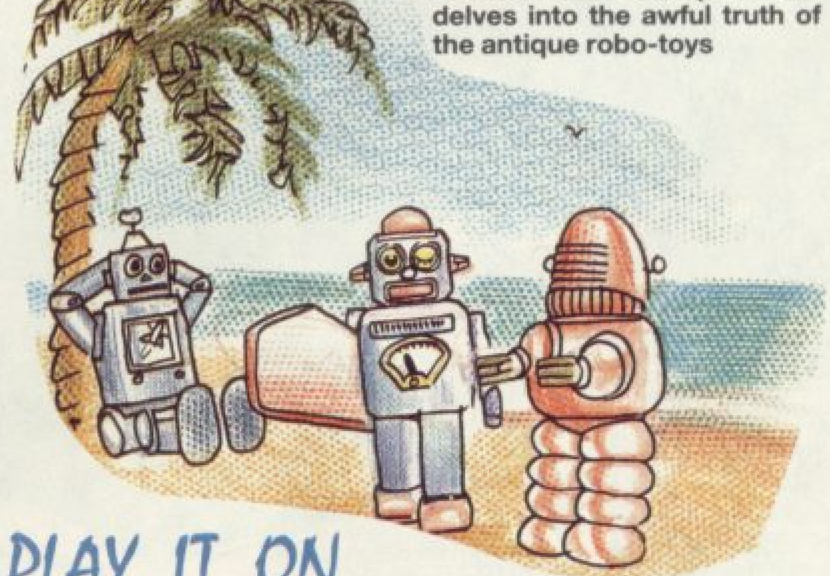





■ TGM 016 will be on sale from 16 February. Miss it and be doomed to a month of misery

### FEATURES





**1989 – A PROMISING YEAR FOR SOFTWARE**

With Christmas behind us it's time to look forward to the year ahead. There are some *very* exciting products on the software horizon, including a mass of product from Europe and, from Japan, no less than 15 PC Engine titles. Without giving too much away, watch this space for something very special in the consoles department!

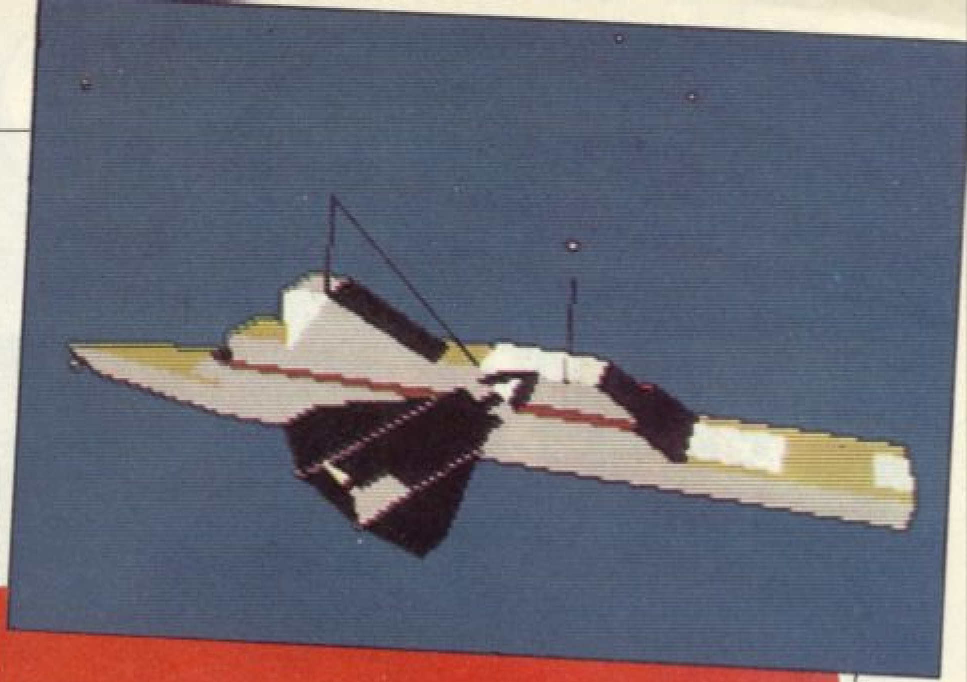
In this months TGM Jez San and Argonaut - one of the top programming teams coding in Britain at the moment begin a series of features on the creation of a 16-bit game. Mel Croucher claims that techno-toys are becoming highly collectable (toy robots fetching £1000 at Southebys?), Jon Bates goes MIDI and Robin Hogg goes nuts about *Power Drift* at the arcades and gets very excited by the F19 stealth fighter – both the computer simulation and the real thing.

In the review catalogue, both *F-19* and *F-16* get this months high scores but *F16*, being new product, scoops this months Top Score award.

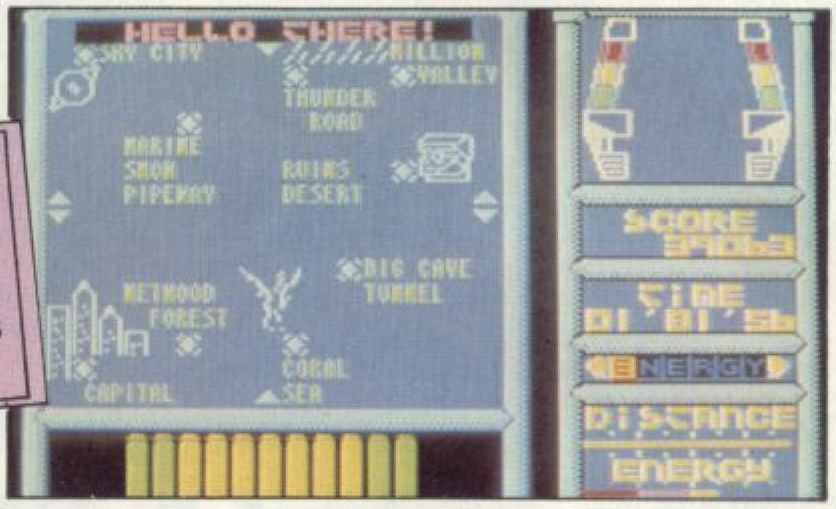
Still on the subject of flight, MicroProse have put a PC up for grabs complete with their *F19* program, but if you'd rather go on holiday, Incentive are offering a trip to Finland in 1990 to watch an eclipse of the sun.

With Back Bytes continuing to offer the complete, one-stop guide to hardware and peripherals – you have a pretty substancial issue in your hands! Stay with us in '89 – and watch TGM fly!

Happy New Year,
Jon Rose
Editor



## WIN!




### DIAL 0898 555080 AND WIN LED STORM!

50 copies of LED Storm are up for grabs on 8 and 16-bit, courtesy of US Gold. All *you* have to do is put a digit in the dial. See page 85 for details

## WIN!

# A PC COMPLETE WITH F-19 STEALTH FIGHTER

Courtesy of MicroProse. Plus copies of *F-19* for the runners up.

**See page 66**

## WIN!

# A TRIP TO FINLAND TO WATCH AN ECLIPSE OF THE SUN!

Plus copies of Incentive's *Total Eclipse*.

**See page 20**

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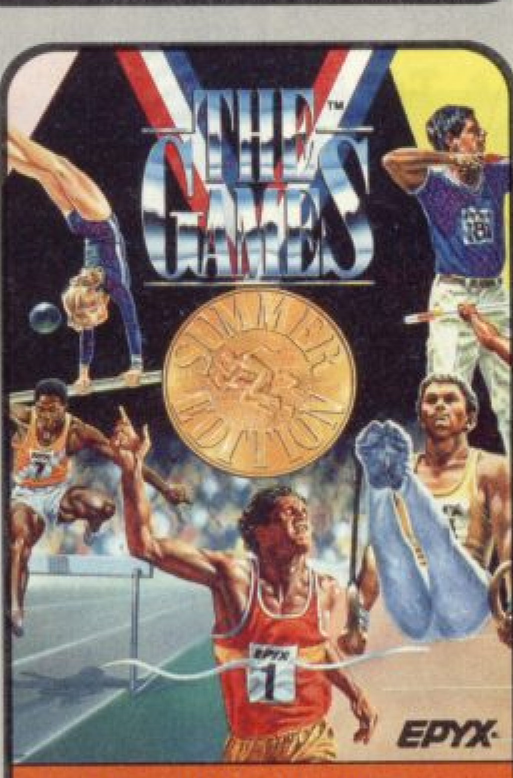




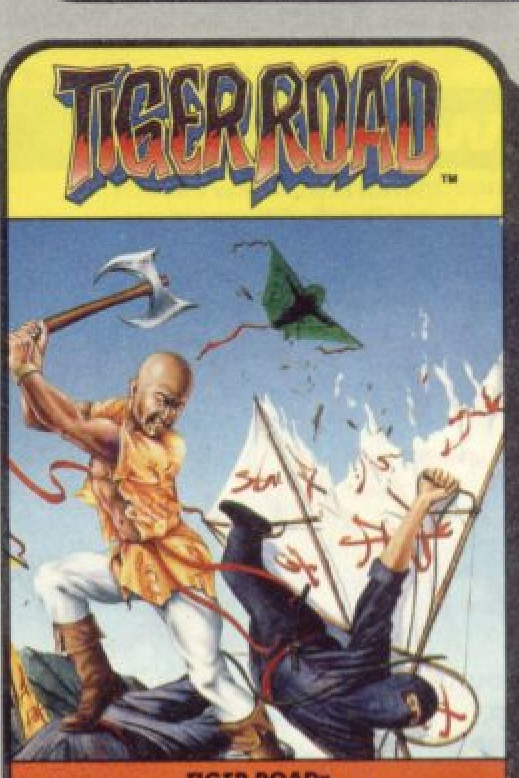





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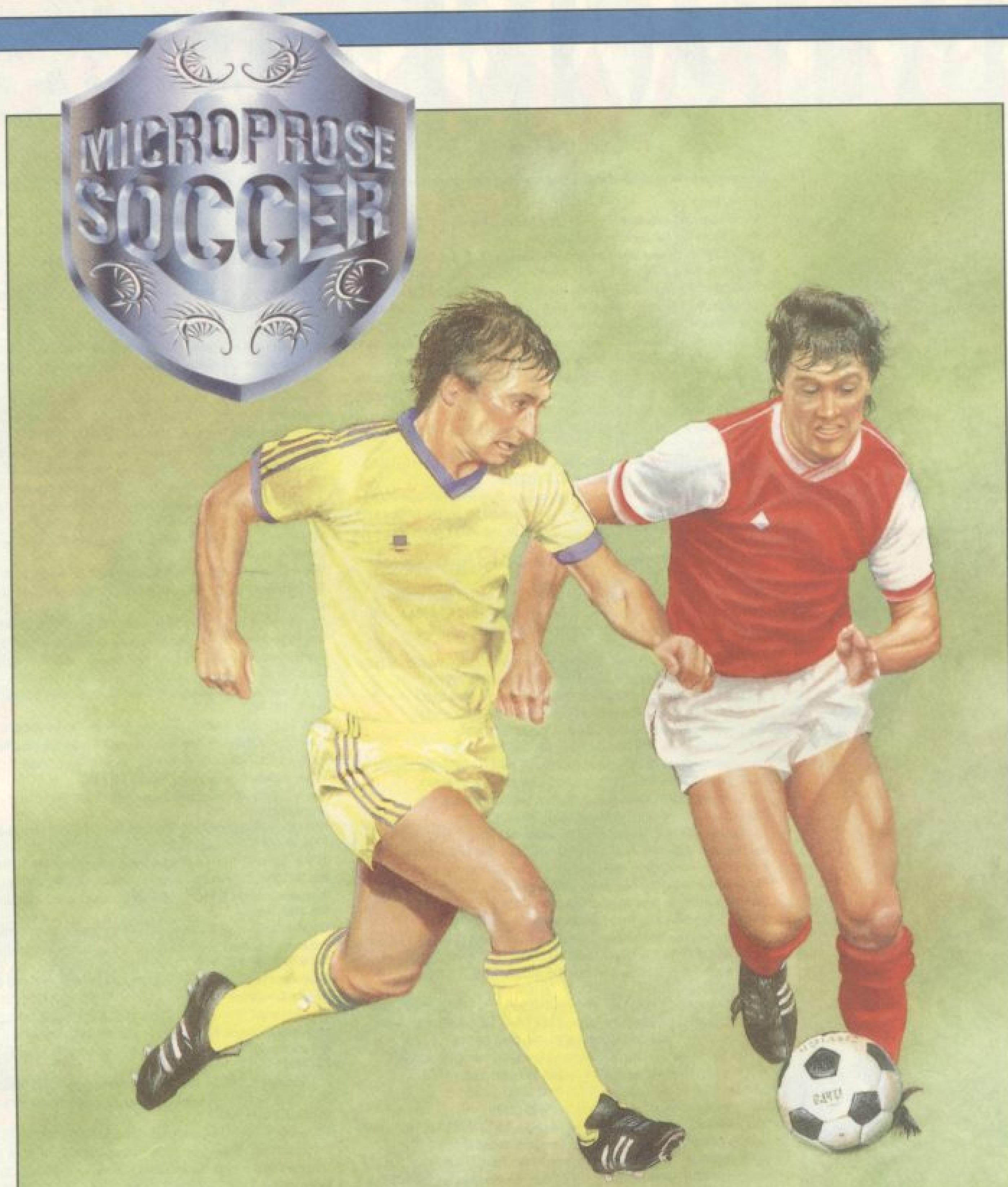
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# TGM PREVIEWS

# The spice of life

**Variety is in for '89, as our selection of new games shows. Licences weird and wonderful, more simulations from Accolade, a bevy of PC games (at last) and a look at what's new at software houses including Ubi Soft, Logotron and Code Masters – all in TGM Previews.**

## Boom in games as PC grows popular

The growth of low-cost, high-quality PCs is bringing that traditional business computer into its own as a games machine – and not surprisingly, simulations are leading the field. After all, PC gaming has long been dominated by American software houses, which tend to favour sports and vehicle games.

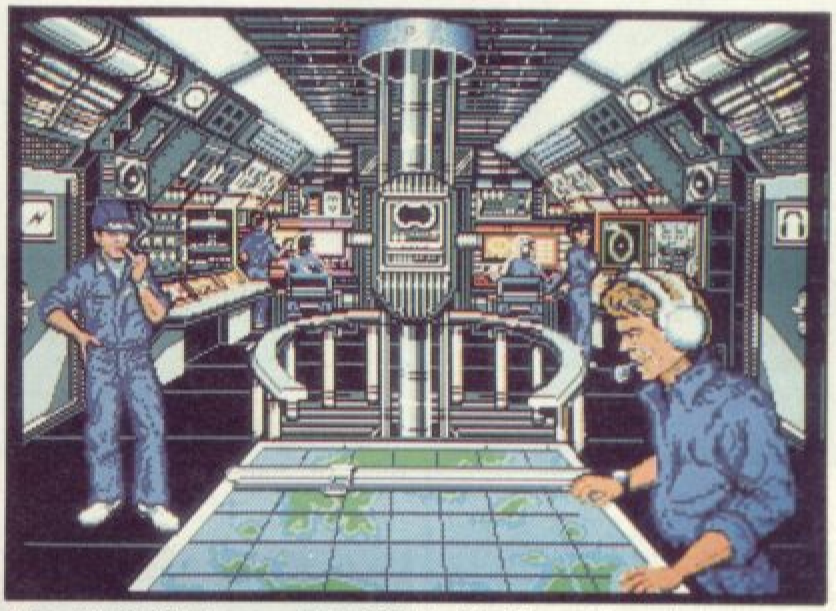
For instance, Electronic Arts promise *688 Attack Sub* for February. Based on America's Los Angeles-class subs, this takes you through a series of real-life missions around the world, with extra added realism from pseudo-artificial intelligence (AI) routines. These make the behaviour of every enemy different, so each mission is a separate challenge.

Graphically, *688 Attack Sub* gives a first-person perspective (periscope included), and digitised crew members who jump when you tell 'em to.

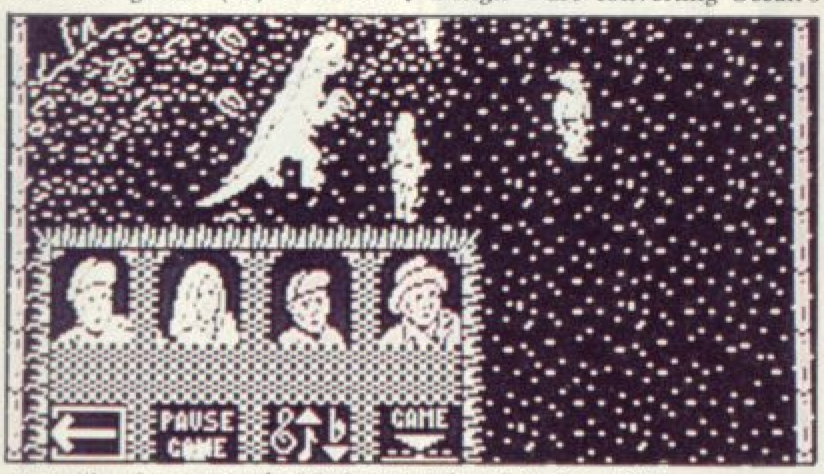
And for the politically questioning, there's also an option to play it as the commander of a Soviet sub.

### Time marches on

For those seeking more swashbuckling entertainment, Walking Circles – formerly Design Design – are converting Ocean's *Where Time Stood Still* (TGM**009**) to the PC.



Who said PCs failed on graphics?: 688 Attack Sub from Electronic Arts




*Movie-like adventure on the PC: Ocean's Where Time Stood Still*

The scenario starts out simple enough: a plane crash in the isolated Himalayan mountains leaves a small group stranded. You control the pilot, Jarret, and try to lead the others to safety, through a series of natural hazards (well, natural if you count bug-eyed monsters as natural).

As our early screenshot shows, the PC game (which revived 95% on Spectrum and is also available on the ST) keeps all that movie-like monochromatic graphic detail, and should make a welcome break from high-powered military management.

Other new PC titles include Korean War flying simulation *F-86 Sabre Strike* from Accolade, and *Operation Hormuz* from Again Again. And in America, Taito have put their own addictive coin-op hit *Arkanoid* on PC – their first release for the machine.

■ Epyx are catering for posh PS/2 users with six conversions (all on 3.5-inch disk, of course). The titles are *Summer Games II, Winter Games, World Games, Destroyer, Sub Battle Simulator*, and *Impossible Mission II*. All are also available for standard PC-compatibles.

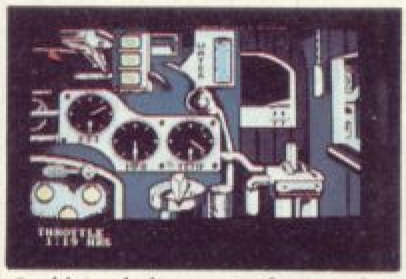
## Accolade carry on simulating

Nothing's changing at Accolade – till they've simulated everything that moves. For international boss Peter Doctorow believes that the California-based software house, established four years ago by the former founders of Activision, is doing just fine with its mix of sports and vehicle sims.

But 'we're running out of sports,' observes Doctorow, the firm's Alan Sugar lookalike Vice-President of International Product Development, reflecting on a catalogue which now includes *Miniputt, Serve And Volley* (tennis), *Rack 'Em* (billiards), *Fast Break* (basketball) and *T.K.O.* (boxing – the title stands for 'technical knockout').

And recreating sports on the computer poses a problem, too. 'In order to simulate,' says Doctorow, 'you have to replicate the team aspect. But you only have one controlling device.' Sports games where your team really acted as a group of individuals with brains, rather than an assembly of moronic sprites, would also require huge processing power.

Still, there's always someone to play them – particularly American men. 'They like sports. You go out and hit a ball hard. That's how men prove they are men.'
One way to prove real manhood could be through another driving game. Doctorow won't be drawn into promises, but he says that 'in 1987 we did *Testdrive*, in 1988 we did *Grand Prix Circuit*, it's not inconceivable we'll do another.'



*Could Accolade run out of steam when there's nothing left to simulate? The Train: Escape To Normandy, soon out on PC.*

Meanwhile, other Accolade plans include *F-86 Sabre Strike* and *The Train: Escape To Normandy* on the PC, and a C64 tank simulation called *Steel Thunder*. Altogether, more than 15 titles are in the works, no doubt including more flight simulations – though 'a good one takes forever'.

With these, he's depending on depth and quality to carry the day. 'You can put out a poor game once. But next time, the guy will say 'I remember that company'.'

After all, Accolade is competing with TV – Doctorow, like many American software bosses (and more and more British ones too), sees games as part of mainstream entertainment. 'I don't think most people *want* an interactive experience when they come home. You've gotta convince them to get up off their butt.'

PRESS ANY KEY



Everyone else will say Grandslam is GO!, so we won't. But they do have the Thunderbirds licence.

# Licence fever strikes again

A new batch of licences and games-of-the-book are lined up, with heroes from Tintin to Arnold Schwarzenegger set for computer stardom.

French software house Infogrames plan to put cartoon adventurer Tintin on Amiga and then C64 – indeed, the game may even be out by the time you read this, complete with Tintin's dog Snowy and the irascible Captain Haddock.

The announcement follows a long period of quiet; there was some excitement almost two years ago when the owner of UK rights to Tintin started searching for a software house to produce a game. But nothing came of that, and it seems Infogrames have got in first with a French licence – after all, the original Tintin came from across the Channel.

Also from France, Coktel Vision promise games of Jules Verne's adventure novel *20,000 Leagues Under The Sea* and then Rudyard Kipling's cutesy classic *The Jungle Book*.

*20,000 Leagues Under The Sea*, due out on CPC, Amiga, ST and PC, is an arcade adventure based on Captain Nemo's good – well, bad – ship *Nautilus*. You're cast as Professor Aronnax, a prisoner of the evil captain, attempting to escape from the *Nautilus*. Well worth a few squid.

## Running into trouble

Back with more conventional licence subjects, Grandslam Entertainments have licences to the Schwarzenegger movie *The Running Man* and the ridiculous TV puppet drama *Thunderbirds*.

*The Running Man*, due for CPC, C64, Spectrum, Amiga, ST and PC, follows the film closely with the story of Ben Richards (Schwarzenegger), a policeman in the year 2019, who rebels against his totalitarian superiors – and is sent to meet his death on a snuff gameshow.

Five horizontally-scrolling sections pit the player, as Richards, against an array of guys with friendly names like Fireball and Buzzsaw. Sounds like a fate worse than *The Price Is Right*, and it's out early this year.

Grandslam go slightly more intellectual in *Thunderbirds*, featuring the Tracey family in a series of four-way-scrolling adventures against the ghastly Hood. If you belong to the cult TV show's gang of fans, you'll love it; if not, at least it'll make a change from the *Thunderbirds*-based *Exchange & Mart* TV ad. Grandslam's *Thunderbirds* is out on 'all major formats' in February, and sequels are expected.



Futuristic death from Grandslam: Schwarzenegger movie The Running Man

And back with the blockbusters again, US Gold will have the game of adventure movie *Indiana Jones And The Last Crusade* next autumn, as part of their tie-up with US software company Lucasfilm (see TGM**014** news).

And finally, there's *Spitting Image* from Domark, only vaguely based on the satirical TV show. The plot here is standard saving-the-world fare, the difference being that to rescue humanity you've got to fight and beat six world leaders including Margaret Thatcher, Mikhail Gorbachov and the Pope. We loved the ST version, programmed by Walking Circles; expect a review soon.

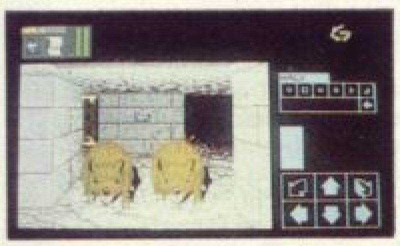


*Aquatic adventure: Coktel Vision based 20,000 Leagues Under The Sea on Jules Verne's 1870 science thriller*

# When bigger is better . . .

Size may not be everything, but extra levels and features can expand old games to give them a new lease of life. And that's exactly what's happening with a couple of releases from Mirrorsoft and Prism Leisure.

Following the success of ST *Dungeon Master*, which Mirrorsoft somewhat dubiously claim is 'the best-selling ST program of all time' at more than 30,000 copies, an extra five levels are being released in January.



*Adding depth to those dungeons: Chaos Strikes Back, Mirrorsoft's ST Dungeon Master supplement*

Titled *Chaos Strikes Back*, the new levels add more dungeons to the end of the game, and the package also features a portrait editor allowing you to change the appearance of onscreen characters. The price isn't fixed yet, but will probably be £14.99.

## Football cheats

Prism Leisure, also touting huge sales (140,000 across all formats) for *Football Manager 2*, offer *Football Manager 2 Expansion Kit*, which does all the work POKEs used to in the old Spectrum days. You can start the game in any division you choose, start with however much money you want, and – valuably – change the number of points you receive for a league win or draw.

The package also includes a set of previously saved games which take you into the Scottish, French, Italian and World leagues, and lets you save and modify your own games (by changing team names, colours, etc). Available in February, *Football Manager 2 Expansion Kit* is available for CPC, C64, Spectrum, Amiga, ST and PC. 8-bit tapes are £6.99, 8-bit disks £9.99, and 16-bit disks £12.99.

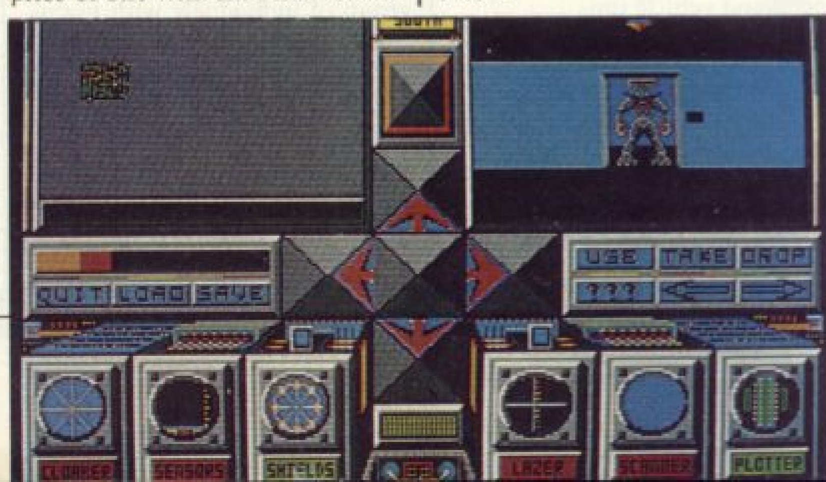
■ SSI offer computer help for *AD&D* Dungeon Masters with *Dungeon Master's Assistant*, a utility for C64 (£29.99) and PC (same price expected).

Working from a database of over 1,000 encounters and 1,300 monsters and characters, *Dungeon Master's Assistant* can calculate the points given in each encounter, and keep track of the armour, weapons and spells each monster has.

The software can generate random encounters or work on ones you choose; you can also add new monsters to the database.

## Low-price 16-bit

Microdeal are offering four ST or Amiga games for little over the price of one with *Hit Disks Volume I*. At £24.95, the compilation includes *Karate Kid II*, mouse-controlled futuristic adventure *Slaygon*, traditional shoot-'em-up *Goldrunner* and space quest *Jupiter Probe*.



# Ubi Soft go for graphics

'Good evening, this is the Ubi Soft news. The evil genius Vrangor and his hideous sidekick Menigo are menacing the innocent folk of Selenia, in a dastardly plot to become Masters of the Galaxy. A single BAT agent has been despatched to prevent them and keep the universe free.'

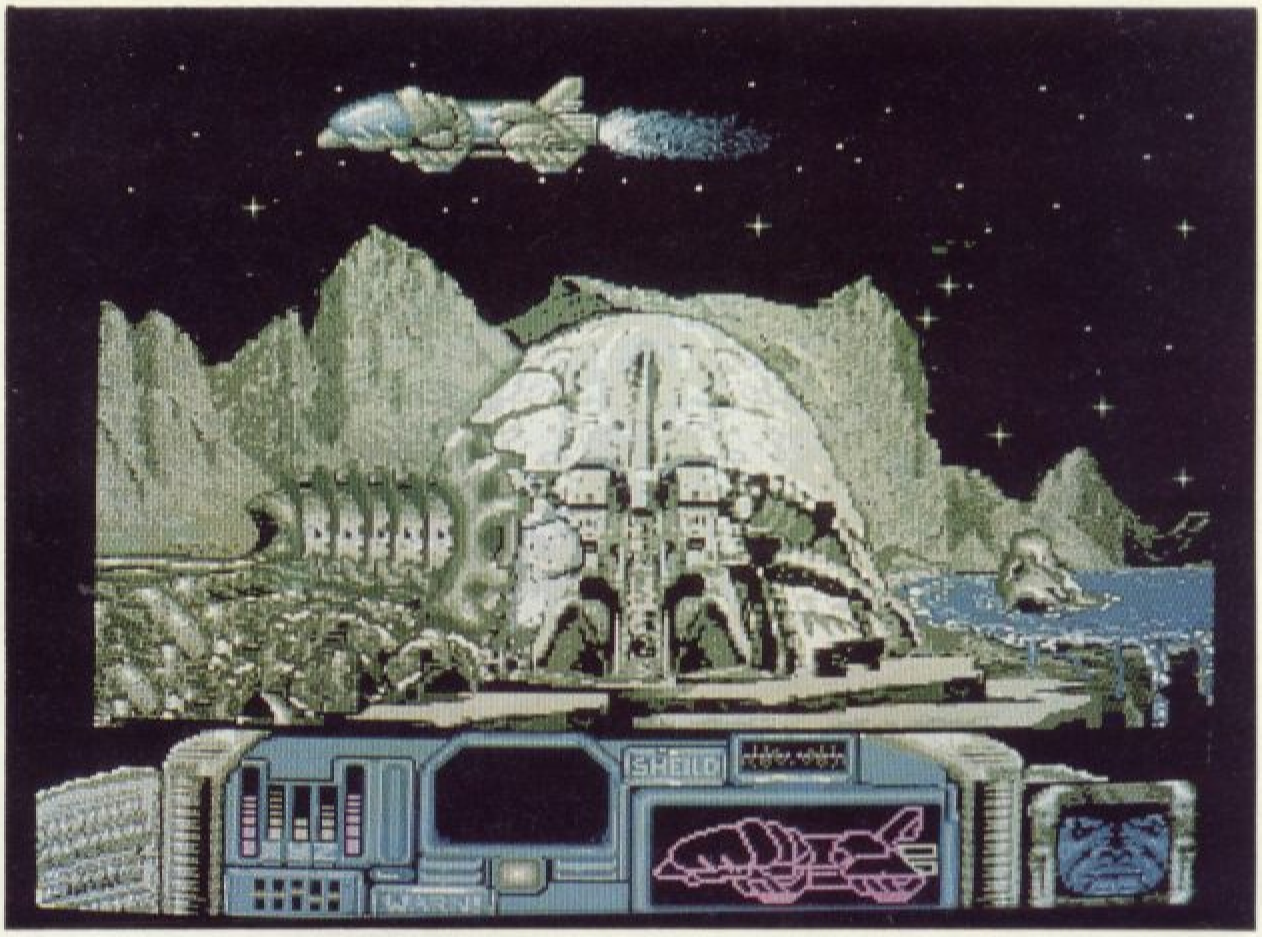
Never mind the story line, feel the graphics – that's the message as Ubi Soft bring out a trio of great-looking games packed with scenario clichés.



*Final Command (ST screen)*

The agent in our imaginary newscast is you in *BAT*. Expect February release on ST, with Amiga and C64 following in March.

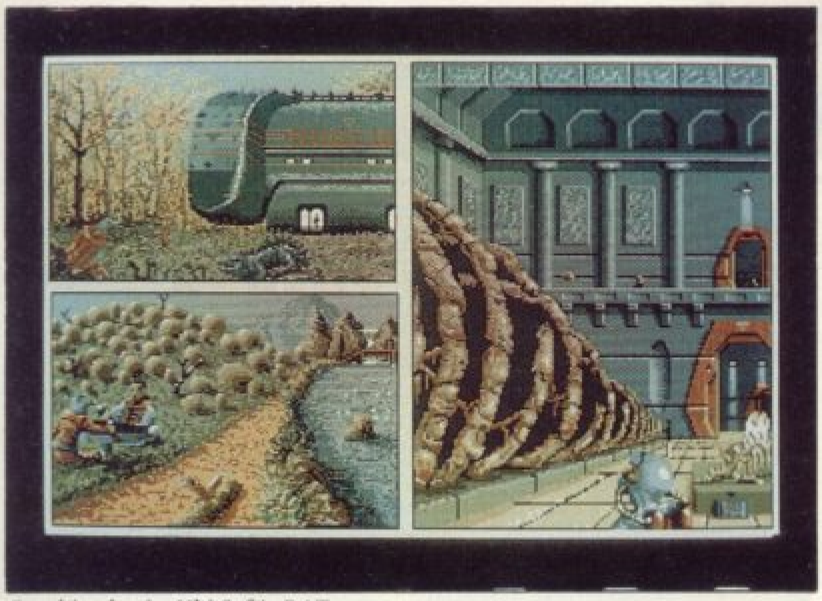
Even more visually bedazzling is *Final Command*, an adventure-style action game which sends you on a seek-and-steal mission into a deserted space station, meeting both enemies and friends and bartering for clues. Expect ST and PC-compatible release in February, followed by Amiga and C64 in March.



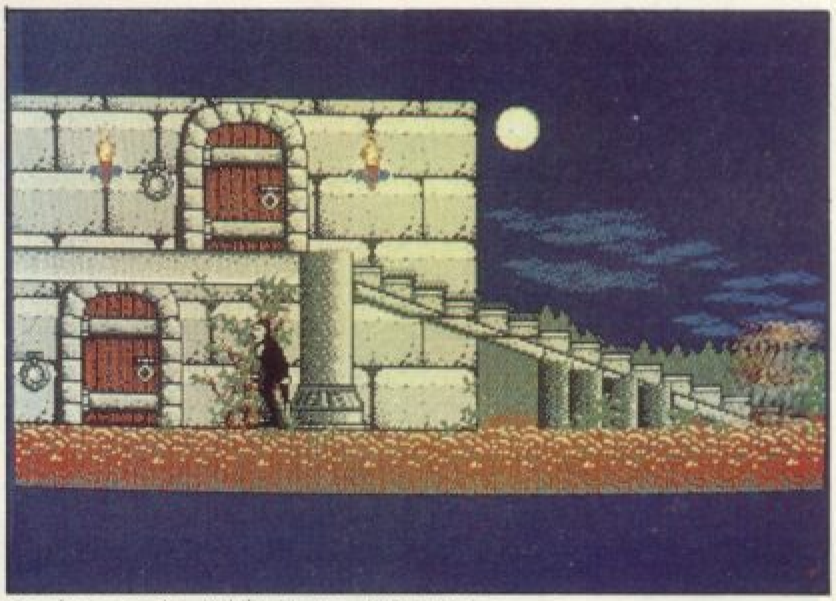

*Found in space: Ubi Soft's Final Command (ST screen)*

And there's also *Night Hunter*, a 30-level arcade adventure with a refreshing change: rather than saving the world, you're the force of evil. As Count Dracula, try a search-and-destroy mission against the sacred medallions which keep vampires at bay, turning into a bat or (less conventionally) a werewolf when necessary.

Each level boasts 20 screens and eight objects, so that's a total of 600 screens and 240 things to find – enough to keep any player busy from sunset to dawn. ST release is set for January, with Amiga, PC-compatible, CPC, C64 and Spectrum rising from the grave in March.



*Graphics classic: Ubi Soft's BAT*



*Fearless vampire: Night Hunter (ST screen)*

# Logotron enter that extra dimension

Solid 3-D plus a solid game theme gave Logotron the idea for *Star Blaze* – they claim it's the first solid 3-D mindless shoot-'em-up!

And it seems programmers Mr Micro (responsible for ST and Amiga versions of Firebird's *Elite*) have lived up to Logotron's demands, giving the game more than 25 different moving objects, smart bombs exploding in 3-D, and 'cosmic house music'.

Set for ST release in January and Amiga in February, *Star Blaze* is touted by Logotron as the 3-D answer to *Nemesis*, *Salamander* and *R-Type*.

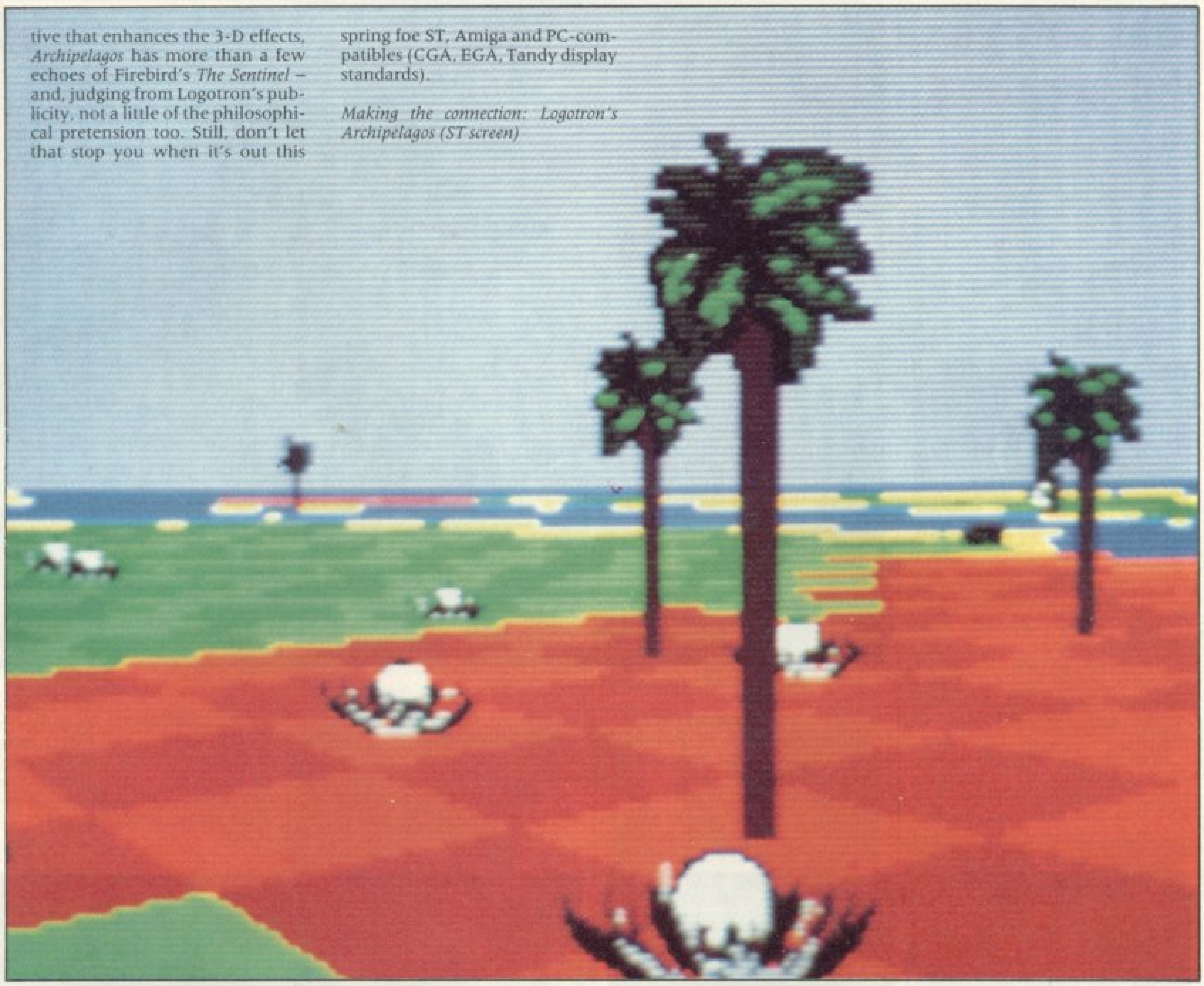



Also in 3-D from Logotron comes *Archipelagos*, a game of evasion and construction that sets you the task of linking 100 scattered islands to vanquish the power of the (presumably somewhat cosmic) Obelisk. When that's completed, the program can generate a new set of islands – 5,000 different ones, altogether.

With continuous 3-D movement, a crowd of weird objects and a just-above-the-ground perspec-

*Solidly mindless: Logotron's Star Blaze (ST screen)*

tive that enhances the 3-D effects, *Archipelagos* has more than a few echoes of Firebird's *The Sentinel* – and, judging from Logotron's publicity, not a little of the philosophical pretension too. Still, don't let that stop you when it's out this spring foe ST, Amiga and PC-compatibles (CGA, EGA, Tandy display standards).



*Making the connection: Logotron's Archipelagos (ST screen)*

# That's not enough storms – Ed

What with *L.E.D. Storm* from US Gold, Hewson's *Stormlord* and *Storm Warrior* from Elite, we wondered if it wasn't time someone put a teacup in it.

But the storm clouds aren't shifting for a while yet, as two quite different releases from Virgin and Creation.

Virgin's *Stormbringer*, which should be out now on the ST, is the third in the Magic Knight series which includes *Spellbound* and *Knight Tyme*. This time round a duplicate Magic Knight has accidentally been created (due to technical errors in a time machine), and it's a case of get him before he gets you. But no killing, you understand: because this 'Off White Knight' is part of you, the only solution is to merge with him.

Creation's *Stormtrooper* sounds like a standard 16-level, 128-screen arcade adventure involving the usual search for a 'warped physicist' – we thought they were all pretty warped at college, actually. But the graphics look smart in a gleaming-metal kinda way, as the screenshot shows. ST release in January, Amiga in February or March.




*Looking smart: Entertainment International's Stormtrooper*




*Another Magic Knight: Virgin's Stormbringer*

# Activision turn to Nintendo

Activision (who seem to have gone back to their old, pre-Mediagenic moniker) are apparently looking to consoles as well as computers with the signing of three games-development teams.

One of the three groups joining Activision in the UK, Motion Picture House, will be developing Nintendo software as well as generating game concepts for other programmers.

Another new Activision arrival, Vivid Images, 'will be developing for both existing and future technologies', according to the official announcement. This ex-System 3 trio consisting of John Twiddy (*Ikari Warriors, Last Ninja*), graphics man Hugh Riley, and Mev Dinc (CPC and Spectrum *Last Ninja 2*).

Also signed are New Frontier Productions, under the direction of David Crossweller, formerly French house Infogrames's man in the UK.

# Sting like a bee

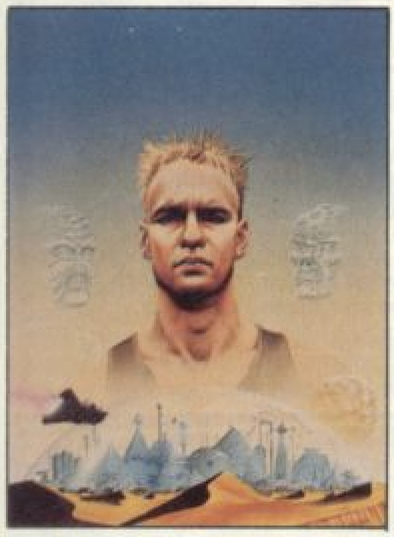
Development house Teque (Terramex, Pac-Mania) has mutated into Chrysalis, a software house which claims to concentrate on original ideas rather than tie-ins.

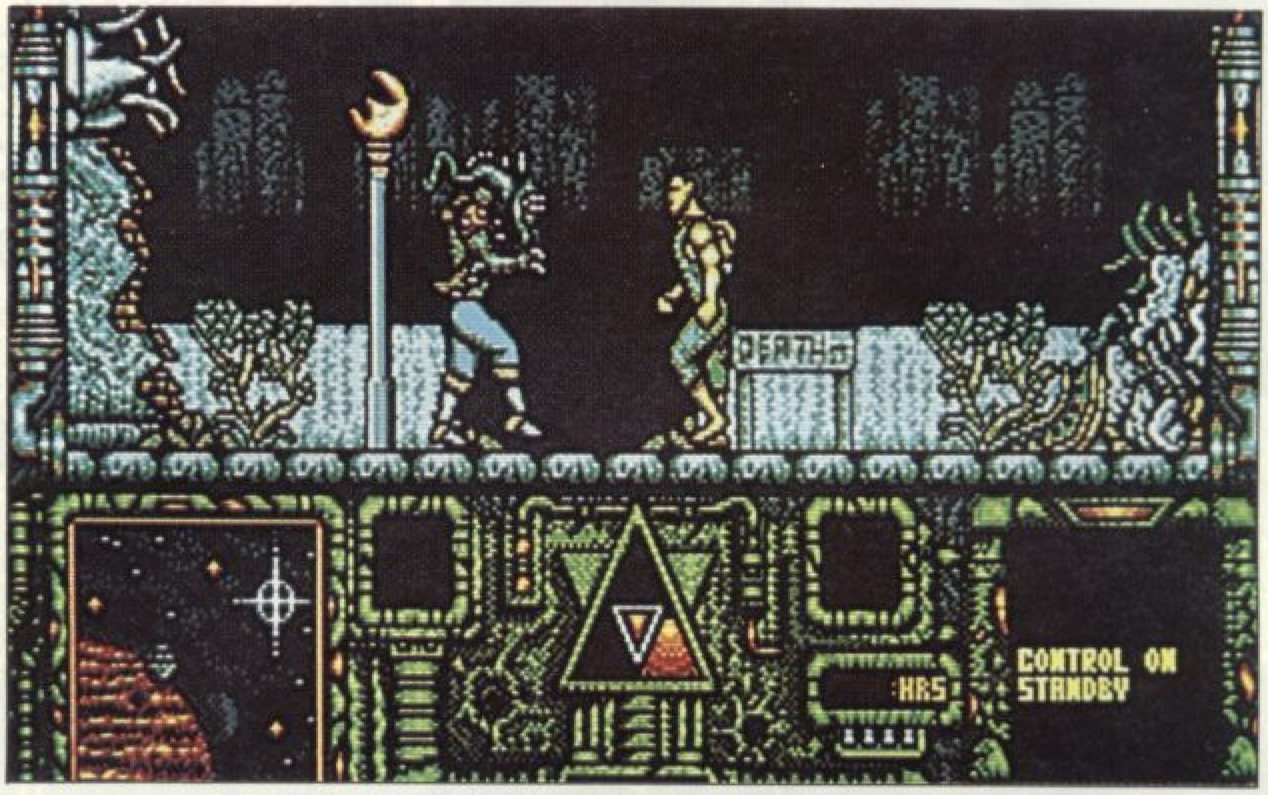
First out of Chrysalis comes Prison (ST and Amiga, ST screen here), 'pure escapist entertainment' – and escapist in more ways than one, as the object is to escape from a prison planet by locating a hidden spaceship through clues.

Programmed by Michael Hart (left) and Jason Wilson (right), it looked to us like a strong if traditional game, with effective graphics.



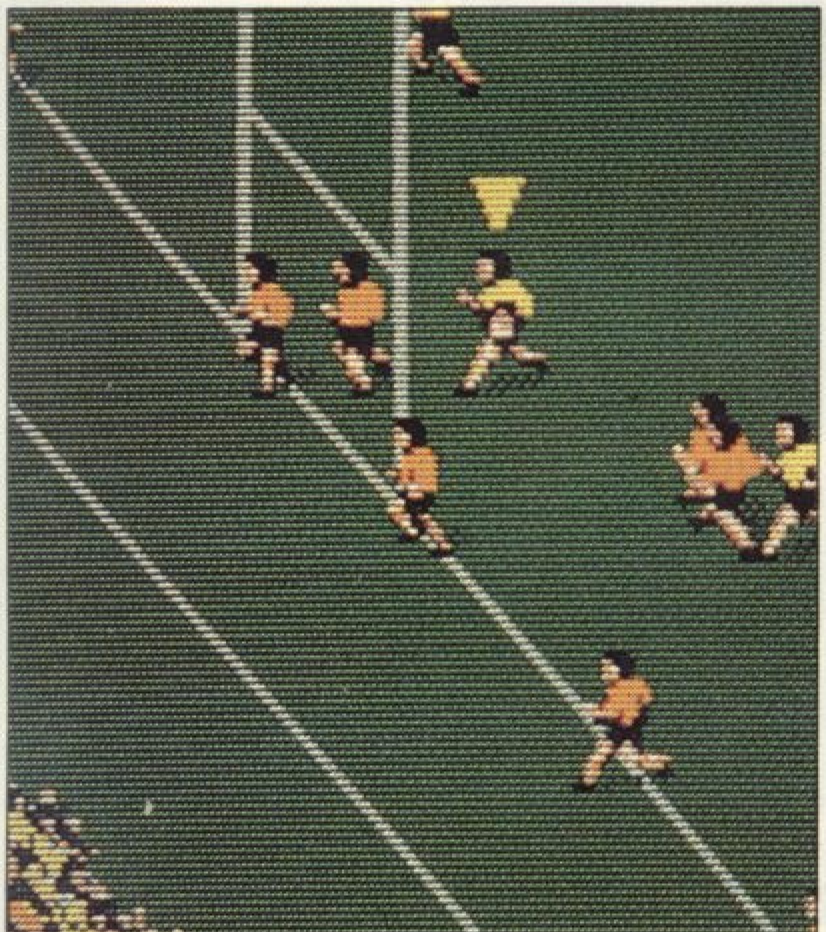
CHRYSALIS SOFTWARE LTD.

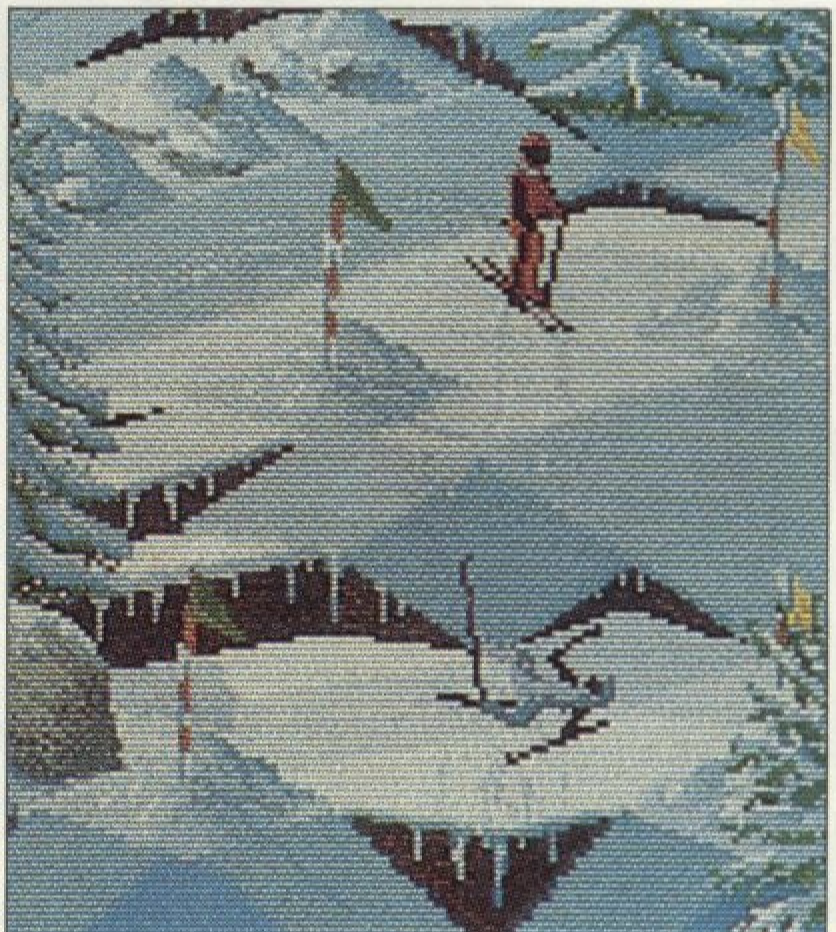




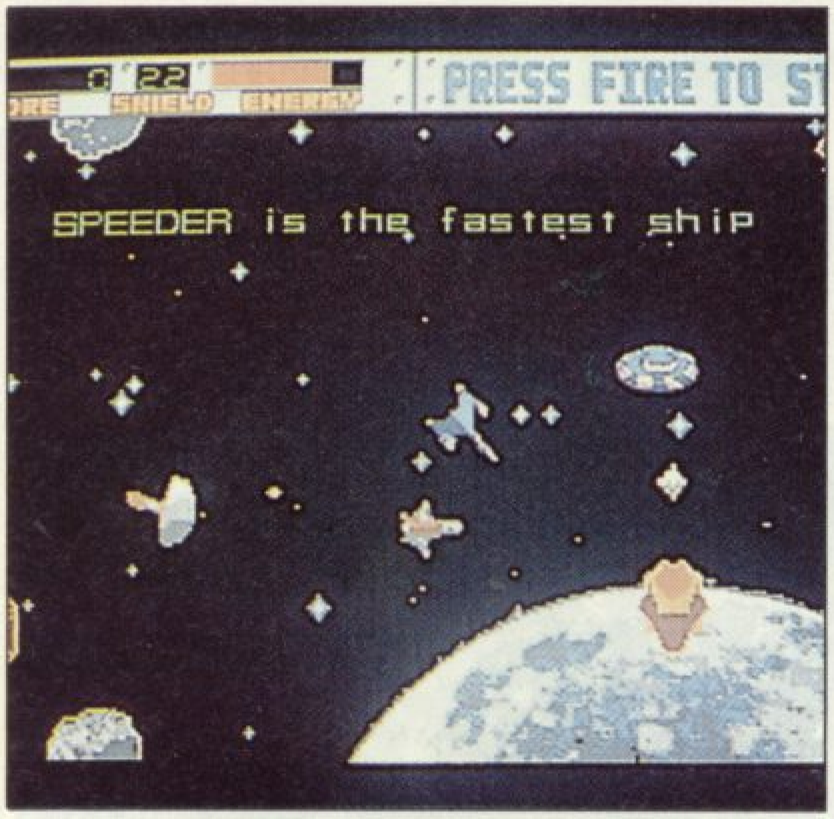

Those Code Masters just won't sit still – not content with the Code Masters Plus range and a full-price label, they're now turning their attention to 16-bit.

But even though they're not called simulators, the themes are still the same, with Advanced Rugby (ST screen) and Advanced Ski (Amiga screen) looking almost as familiar as Dizzy.





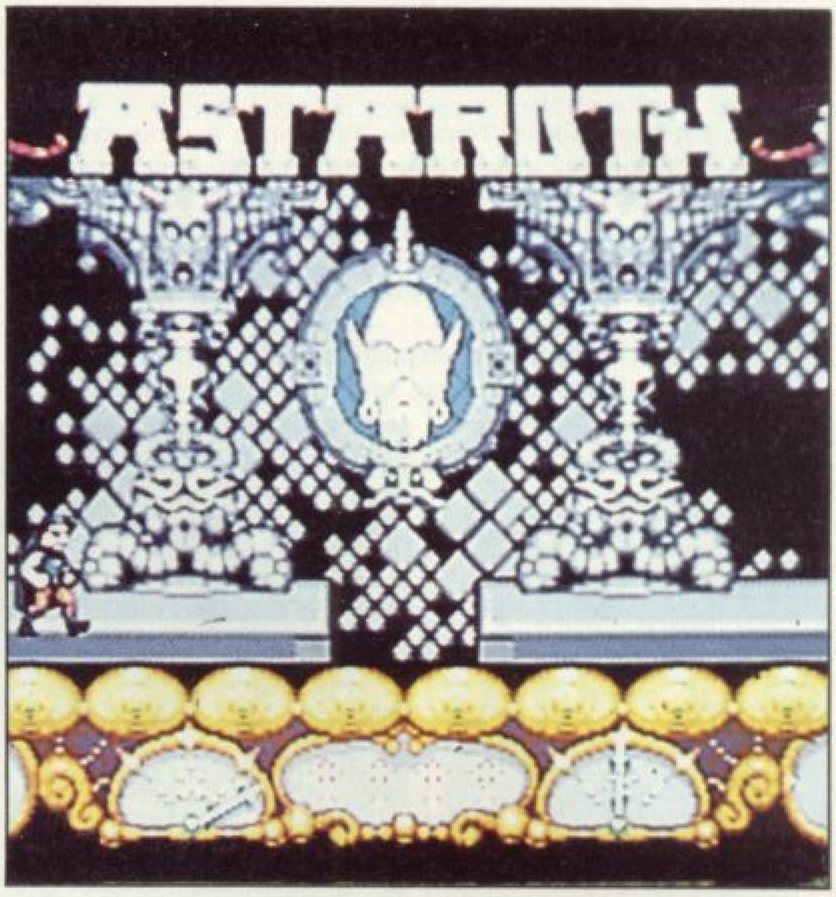
PRESS ANY KEY




*Mirrorsoft's Imageworks label was launched last autumn (see TGM010 news) with the promise of more than just coin-op conversions – but they've made an exception for Blasteroids, a conversion from Atari Games's arcade original.*

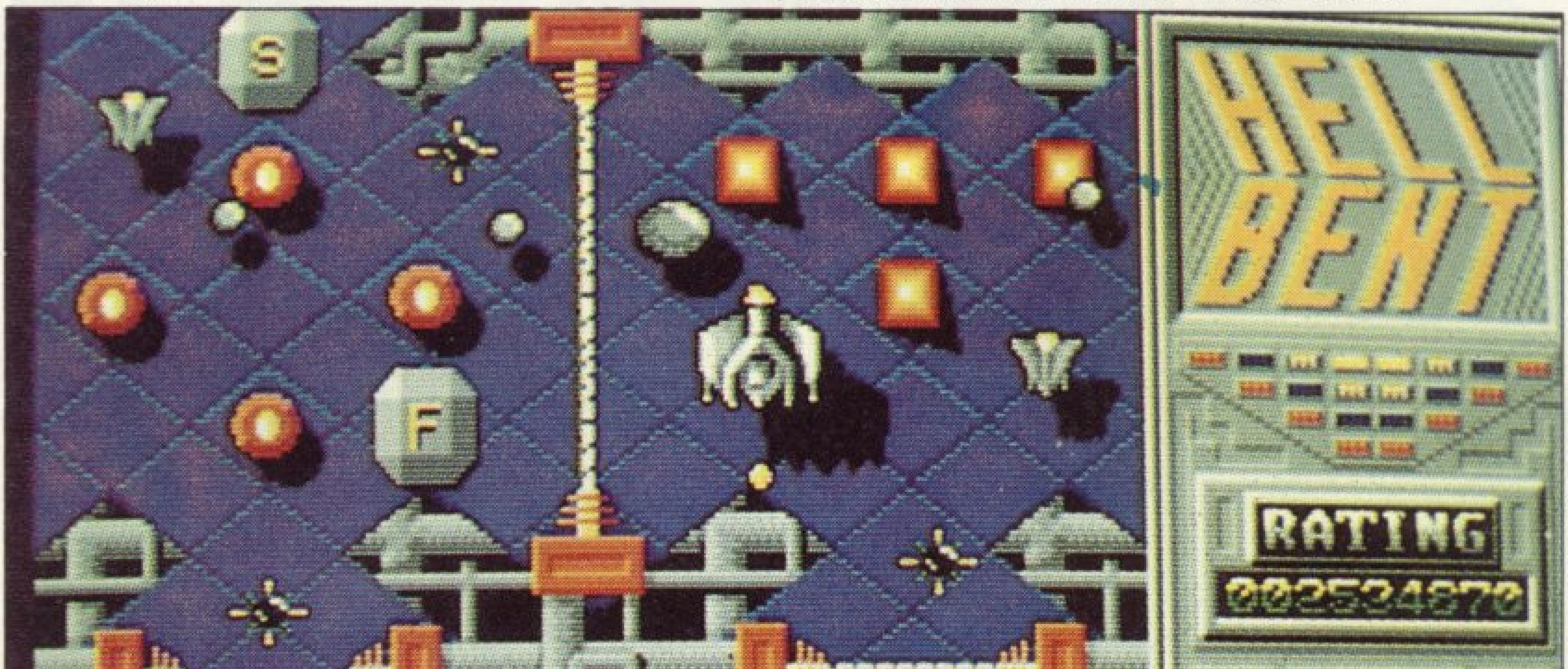
*And Imageworks are emphasising the faithful approach of Teque, the conversion team (who've now formed Chrysalis – see the Prison preview elsewhere in these pages). The graphics have been taken directly from the coin-op's program, they say.*

*This is an early screenshot; Blasteroids is due for release on CPC, C64, MSX, Spectrum, Amiga, PC-compatible and ST in March.*




*'Somewhere under a lost and lonely hill of grim and foreboding aspect lies a labyrinthine crypt . . . ' No, it's not Hewson headquarters, though goodness knows Oxfordshire has its fair share of grim and foreboding aspects.*

*Astaroth, a room-to-room arcade adventure by Mark Dawson (Robin Of The Wood, Nodes f Yesod), pits you against the eponymous 'angel of death', fighting with magic and mind powers. Expect ST and Amiga release soon.*

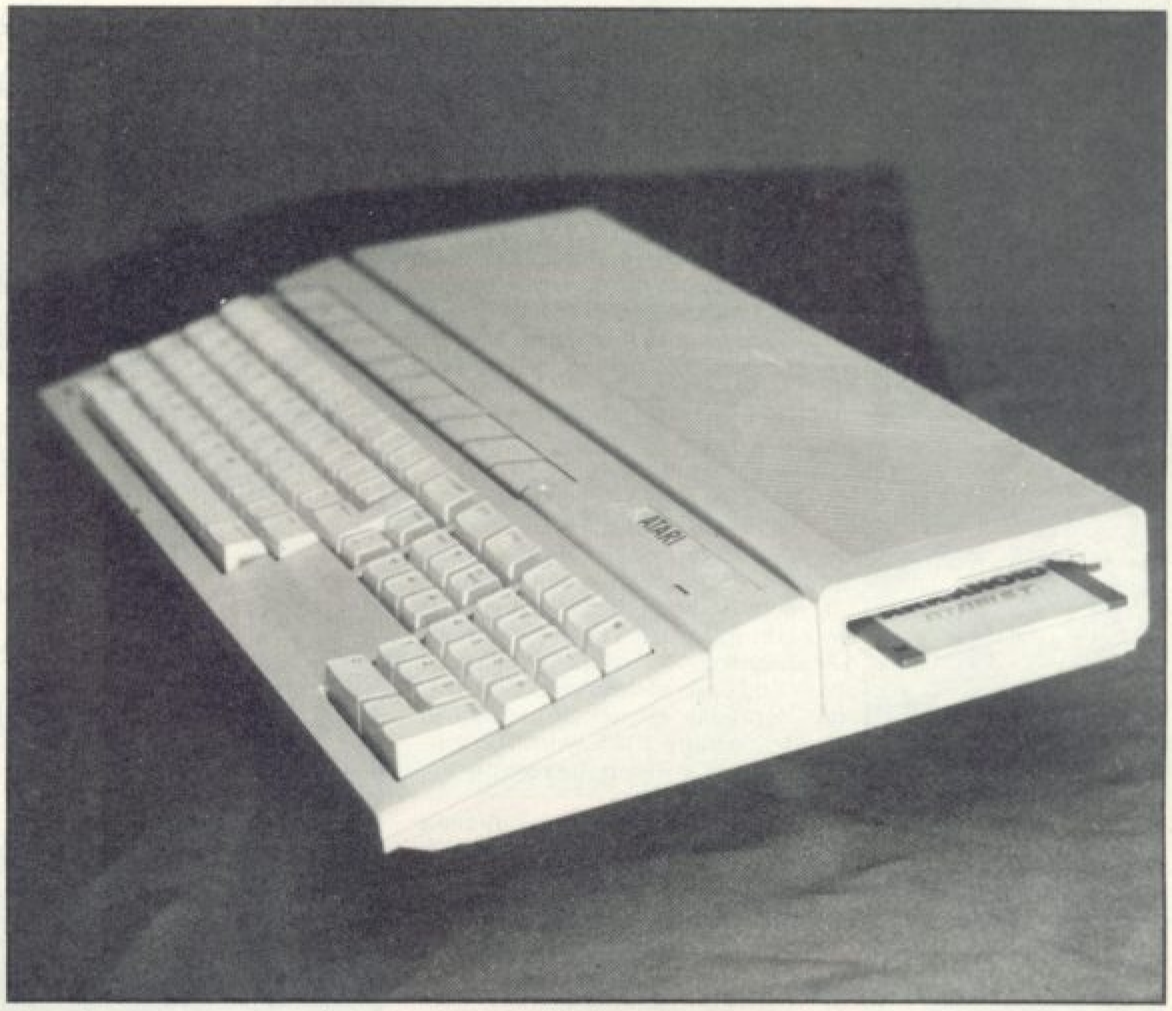



*Woaken up?: Novagen hint that programmer Paul Woakes worked on arcade toughie Hellbent, previewed at last September's PC Show – and that that could be the reason for the delay of his long-awaited Damocles. But officially, Hellbent – by Donovan Prince and graphic artist Mo Warden – is the first Novagen 16-bit game not from Woakes. It should be out now on ST and Amiga.*

# TGM REPORT

# ATARI GAMES DECLARE WAR

*. . . but console front quiets down despite court case with Nintendo*




Observers of the rapidly-changing console scene were shocked last month when *no* new launches were announced. But things are continuing to move on two fronts: a clearer picture of Konix's Slipstream is emerging, and in America a lawsuit has been filed which could finally open the doors to more Nintendo software.

The US court case between Atari Games and Nintendo has come as a result of Nintendo's tight control of games for their cheap (£99.95) and hugely successful console. Though independent software houses are allowed to design Nintendo games, they can't be released without approval from the giant company based in Japan.

Nintendo achieve this control by not permitting anyone else to manufacture their cartridges, and by a security mechanism that makes cartridges extremely difficult to produce without access to all Nintendo's technical information (TGM**011**).

Now Atari Games, who have not been connected with ST manufacturer Atari since 1985, have defied Nintendo by releasing two games including their classic *Pac-Man* for the console.

And they've launched a $100 million (£55 million) lawsuit under America's strong antitrust laws, which are designed to prevent any one company from gaining unfair control of a particular industry. Among Atari Games's complaints is that Nintendo, by keeping all the game manufacturing to themselves, can charge software houses whatever price they want for cartridges.

In the UK, the boss of Nintendo's British representatives NESI remained unperturbed by the affair. 'They [Nintendo] have never lost a lawsuit,' Mike Wensman told TGM. 'This is one that they have been preparing for.'

In any case, UK antitrust laws are considerably less strong than America's.

## Konsole konfusion

So many contradictory reports have been published of Konix's console, codenamed the Slipstream and set for the high streets this autumn, that confusion reigns. The explanation seems to be that the console's specification has changed several times, and the sources of various magazines all have a different picture of what will eventually emerge from the south Wales-based company.

However, some things seem certain. The machine will sell for around £150 – possibly slightly above – and have a set of peripherals including a hydraulic chair, a light gun for firing at the screen and a helmet providing 3-D vision. Some of these will be sold as part of the Slipstream package; others, including the hydraulic chair, will be extra.

Software will come on disk, and possibly cartridge too. Reports in several magazines of a 3-inch CPC-style disk seem to have been erroneous; the obvious choice of disk format, and that which internal Konix sources confirm, is 3.5-inch, as used on the ST and Amiga.

Finally, it's almost certain that some elements of the unreleased Flare One console are used in the Slipstream, though even insiders differ on whether the Flare One itself is still to appear.

All who are familiar with the Slipstream do agree on one thing: it's great. Graphics, sound and game-control capabilities are said to be superlative, so all it needs is software to match.

■ In TGM next month: it all comes out in the Slipstream wash with pictures, facts and a review of Konix's console

PRESS ANY KEY

# 'FREE' GAMES WITH AMIGA AND 1040 ST

*. . . hundreds of pounds' worth promised, but no price rise*

The Amiga and 1Mb ST (1040 STF) are both being bundled with 'free' games, following the popularity of Atari's standard ST Superpack. And no price increases are involved.

But both new bundles come from London-based hardware distributor SDL, rather than from the manufacturers themselves, so they will not be available in all shops.

The new 1040 STF bundle comes in two forms, both £499 – one aimed at games-players and one at businesspeople.

Both include a TV modulator, mouse and mouse mat, four games – *Overlander*, *Space Harrier*, *Star Wars* and *Bubble Bobble* – five public-domain disks of utilities, BASIC programming book, the *1st Word* word processor and a demo disk of the *Neochrome* art package.

Beyond that, the games bundle includes 22 games, *Organiser* software and a joystick, adding £458.97 worth of goods to the 1040 STF without increasing its price. The business bundle includes *VIP Professional*, *Microsoft Write* and *Superbase Personal* as well as the common elements mentioned above – adding £385 worth of software, again without increasing the machine's price.

And greedy shoppers can buy their 1040 STF with a megabundle which includes the the common elements, the games extras *and* the business extras, all for £599.

## Ameagre?

The Amiga bundle is slightly less valuable. The standard Amiga A500 is being sold by retailers participating in SDL's scheme with ten pieces of software, supposedly worth £230 altogether.

The titles in this bundle, called Tenstar, include *Buggy Boy*, *Barbarian* and *Terrorpods*, as well as the art package *Photon Paint*.

■ First revealed in TGM**011**, the 520 STFM's £399 Super Pack includes 21 games at just £100 over the basic price. Its popularity with buyers has no doubt prompted SDL's decision to launch these bundles – the 1040 STF and Amiga have both lagged well behind the 520 STFM in sales, by all accounts.

Other bundles currently in the shops include two for the C64, and one for the CPC.

**Life beyond Spectrums: last December's ZX Microfair may have had an Operation Wolf coin-op, but it was no PC Show. Exhibitors complained privately of low attendances and slow business, with one telling TGM that it was the quietest Microfair of the nine he'd been to.**

**But this annual Spectrum Christmas show, held in London's New Horticultural Halls, may have a new lease of life – if the number of non-Spectrum goods is anything to go by. Alongside the usual 'alternatives' – Spectrum developer Sir Clive Sinclair's QL and Z88 machines – there was CPC and ST software and hardware.**

**And it seems many firms, including veteran Spectrum peripherals producers Romantic Robot, are heading for 16-bit now.**

*Romantic ST: see Toolbox in Back Bytes, page 100*



■ **PC prices cut:** Amstrad have reduced prices on all but their cheapest PCs. Now in the pocket-money range (well, Alan Sugar has **big** pockets) are the PC1512 with double disk drive and mono monitor and the same machine with single drive and colour monitor, both at £573.85.

Other cuts of up to £200 off the recommended retail price apply on more expensive PC1512 and 1640 models, but the basic PC1512 with single drive and mono monitor remains at £458.85.

■ **Micronet offer:** Popular network Micronet are offering new members who join before April 1 a **half-price** deal – they'll pay just £9.95, instead of the usual £20, for their first three months. All you have to do is agree to pay by direct debit (automatic payments from the bank).

Micronet, which includes daily computer news, the interactive game *Shades* and the famous chatlines, also offers a free modem to new netters who sign up for a year.

For more details ☎ (01) 833-4136.

■ **Animated Activision (formerly motion-picture Mediagenic):** The software house with two names has acquired the UK licence to US-based Buena Vista's game *Who Framed Roger Rabbit?*, based on the **Steven Spielberg** movie currently playing around Britain. Seems they plan to use the existing Amiga version and write new ones for those weird English machines . . .

The Amiga version is already available in Britain from an independent importer.

■ **Who gives a STOS:** Mandarin Software do, which isn't surprising – after all, they **invented** the BASIC-based ST game-creator package which became the first utility to top software sales charts. And now they're offering **£5,000** in small used notes to the winner of their Atari/*STOS* Games Writer of the Year Award.

All you have to is submit an ST game written with *STOS* – entries are still being accepted. For more details ☎ (0625) 878888.

# FLIGHT FORMATION



What scored 97% in TGM, zoomed onto TV's *Get Fresh*, gave **solid 3-D** a new dimension, and made a star of a little-known utilities programmer? The answer, of course: *Starglider 2*.

Now **Jez San** and his team at Argonaut Software are working on a revolutionary 3-D flight simulator for Electronic Arts, and telling their story to TGM.

Each month, Jez San provides the inside story on the state of *X* – the game's not named yet – and then another Argonaut member gives his view. The **future** is in their hands.

*Hard act to follow: the Argonaut team are trying to outdo their own Starglider 2, released by Rainbird (TGM011). It recently won an award for best 16-bit graphics of the year – see TGM Report.*

X started life on paper as an all-singing, all-dancing flight sim to beat them all, back in the days of 1986 when the original *Starglider* was still not out. We decided that there had to be a good use for our nice fast 3-D routines, and it had to be futuristic, have lotsa action, be very high-tech, and be a good excuse for some gratuitous 3-D polygons flying at you at breakneck speeds. Seeing as how space games were becoming the rule rather than the exception, *X* the flight simulator

**After the last-minute rush of completing Starglider 2, I found myself at a loss as to what to do next. I talked to my boss, Jez, and it seemed that I had a choice: I could either start work on Afterburner, the coin-op conversion that Argonaut had just been contracted to write for Mediagenic, or I could join the people working on X, our state-of-the-art solid-3-D combat fighter simulator.**

**The choice was easy. I had long wanted to work on a simulation, and X was going to be a ground-breaking program in many areas. It was going to be a realistic simulator, not just of aircraft in flight, but also of all the aircraft systems.**

**A modern fighter cockpit such as**

that found in the F/A-18 Hornet or the Harrier II is a nightmare of computer displays and controls. Even the radar uses a computer that seems to dwarf the Amiga or ST. We could see that trying to simulate that would be a real challenge – and, as we found out, it was a lot of fun too.

From the start we realised that X was going to need a strong game theme. Sure, flying a modern fighter is fun, and becoming master of its high-tech environment is a real challenge to a games-player, but that's not enough. However, before we could get to grips with the problems of designing a game for X, certain key structures had to be written into the program to make it flexible enough.

I wanted X to be rewritten slightly, so that the game was more modular, easier to add to and to debug.

## Improvements

The first step was to upgrade the 'strategy' system, which dictates how objects in the game behave. Starglider 2 had a pretty good system for handling many objects, each acting according to either a unique or a common strategy.

For an example of such a routine, take the solar towers, seen in Starglider 2. The tower graphic had about 24 frames of animation, frames which were cued depending on what the player did to the tower.

All the towers used to start out friendly to the player, with their 'vanes' outstretched to the sun. If the player accidentally (or purposely) shot one of the towers, their strategy routine made them close up the vanes when the player approached. This was one of the simpler strategies for the objects in the game.

Other strategies involved complex interactions with the player and the environment, and we realised that X, being a complex game, was going to need a more powerful piece of code to handle this.

Also, we decided that it was going to make everything a lot easier if we wrote some powerful debugging routines, to help us find bugs a lot faster than had been possible in Starglider 2.

But debugging the code in Starglider 2 hadn't been that hard, because we had a handy device for the Amiga that allowed us to track down all the really embarrassing mistakes that people make.

## Trapped by MICE

The in-circuit emulator, or MICE for short, is just a whole load of chips in a box that cost a fortune but effectively take over the job of the 68000 central processor in the Amiga (or ST, if you can find an old one with a socketed 68000 in it). The MICE sits in the place of the 68000, and makes no difference to the way the program runs.

The nice thing about it is that you can stop the Amiga dead in its tracks if you want, then examine some memory, or look at the registers, or anything you want. Then all you have to do is type in the approp-

*"Our 3-D world doesn't just contain stationary objects like other flight simulators. That's easy!"*



was born.

We guessed that, by the Nineties, everyone would be flying stealth aircraft – planes which radar can't detect – but F-16s and the other popular aircraft of today would still be around too.

We wanted to combine the thrills of dogfighting, ground-attack, reconnaissance and other exciting but warlike things to do. And with stealth aircraft comes combat strategy. Your radar targetting device is like a beacon: what's the point of being a radar-invisible flying lump of metal if you're broadcasting nasty radio waves all over the place to find targets? So you need cunning and strategy to use the radar without getting attacked in your first five seconds.

Programming *X* would be a major undertaking. So much needed to be done, but luckily we could draw upon the technology used in early projects. With each new project, we experimented and learned new ways of making our games run faster, smoother and snazzier. Each time, we enhanced our graphics or maths routines to new performance heights.

We now have a monster-sized piece of code called SHOWVIEW that does all the maths and graphics work. Using SHOWVIEW is like looking through an imaginary camera: given its location and direction, we can project a 3-D world exactly how it would look onto the computer's 2-D screen.

This is more complicated than it sounds, because our 3-D world doesn't just contain stationary objects like most of the other flight simulators around. That's easy! What's trickier (and more useful) is to have a lot of independently rotating and moving 3-D objects – aircraft, tanks etc.

We can also vary the window size and zoom factors in arbitrary ways, without being limited to multiples of 2 (the lazy programmer's way out).

It's all very well having fast graphics-drawing routines, but we need a game in there too. And not just any old game – it has to be 'simple, hot and deep', to quote Electronic Arts's philosophy. But we bent the rules a bit . . . being a flight simulator kinda means it ain't simple!

*"We were experimenting to see if fractual mountains would slow the graphics down too much"*

## Reality comes first

Our first major problem, one that we spent a lot of time solving, was realism. The other simulators went wrong with their simplistic view of how an aircraft flies. It does not simply fly in the direction it's pointing, like a car; to change direction when flying an aircraft you don't just 'turn' it.

Many of the other flight simulators of our time treated the plane as an object that could rotate in the air any way it wanted, with no regard for the forces and air pressures around that give an aircraft its characteristics. They fudged it.

Dogfighting manoeuvres and aerobatic flying like stall turns, spins and loops require very realistic simulation of the stall characteristics of each wing surface. Most simulators can't do it, and as far as I know *X* has now become one of the three that actually simulate the flight realistically and effectively (the others are Microsoft's *Flight Simulator III*, and *Chuck Yeager's Advanced Flight Trainer*, also from Electronic Arts).

STALL *When an aircraft's speed goes below a critical point, the nose can tip downward*

This realism involved a lot of mathematics that wasn't in the textbooks. We haven't been able to find any references to our problems and have really had to go back to first principles. To start with, we hit (and solved) a major hassle to do with compound rotation. That is, how do you rotate a 3-D object relative to its last rotation, rather than from its 'starting' rotation, and keep full accuracy?

Even the textbooks agreed with us that it can't be done reliably, but there are sneaky ways around it . . . which we eventually found.

Another problem we had was how much precise detail to give our 3-D world. *Starglider* got away with 16-bit positions (ie it defined each tiny bit of the world using 16 bits of information). It worked quite well, because you orbited a 16-bit world quite quickly,

PRESS ANY KEY

riate command and start the Amiga up again. The machine never knows what happened.

The MICE can print out the last 2K of code that the 68000 has executed, if the computer crashes – so you know what caused the problem.

And you can tell the MICE something like this: 'Do nothing until a certain memory address is being written to or read from. When it is, stop what you're doing.' After this you can see what piece of code was writing to memory, and check that it was the right one!

So we had a good low-level debugger to use, but I thought 'Why not start writing some more high-level debugging routines to help with more specific problems associated with our program?' So I quickly designed a 6x6 text font, and wrote a text-printing routine that could neatly overlay the main play area on the screen without obstructing the view. Now we could get information on the screen about what each object in the game thought it was doing.

This was a fine idea, but how do you get usable information on up to 200 objects without getting swamped with numbers? You see, every object in X has a little piece of memory that it can call its own. They need this for many reasons, like telling the 3-D maths where in the world they are, what angles of pitch, yaw and roll they are at, and what animation stage they're on. (Most graphics are designed as a series of slightly different animation stages, and running through these fast gives the appearance of movement.)

The problem was that some of these blocks were getting to be close to 300 bytes in size for just one object!

## A solution at last

I decided that the most fun thing to do would be to allow the player to view any object in the game world from any angle or distance. And that solved my problem of onscreen object data – the debugger would print data only on the object I was viewing at the time.

This turned out to be a really good feature, and also a great help when it came to checking that objects were behaving properly.

Think of a fighter aircraft. In X you're going to be able to fly your jet fighter into enemy airspace, and expect the enemy to send up interceptors when they detect you on their radar. This is a great idea, but there's one problem: how do you know the enemy aircraft has done what it's supposed to?

Easy. I just transfer my view to one of the aircraft and I can watch everything it does in solid 3-D, and read the computer pilot's every decision in text and figures.

However, our problems had only just begun. Out there still lay the great black box of flight algorithms, fighter weapons systems, head-up displays and countless more challenges. We certainly had our work cut out for us.

**Christopher Humphries**



*Those magnificent men and their flying machines: left to right, Argonaut programmers Danny Emmett, Peter Warnes and Richard Clucas. Behind them (in glasses) stands boss Jez San.*

*"A handy device for the Amiga allowed us to track down all the really embarrassing mistakes"*

*In search of bugs: programmer Christopher Humphries*





as if it were a small planet or moon.

In *Starglider 2* we had to refine this further and have a 32-bit world and real 32-bit object positions, precise enough for men on the ground, buildings, aircraft, mountains and coastlines. Some other programs cheat a little (and why not?) by using 32-bit positions but only 16-bit precision.

Ground texturing was one of our pet projects. Many flight simulators often just leave dust particles on the ground or even unrotated circles that stick out uninterestingly. We were doing some experiments with fractual mountains and tested them out in *X* to see whether they'd slow the graphics down too much.

They look great and give a superb effect of low-level flight, especially when you skim in and out of them! Alas, 225 polygons – triangles, rectangles and much more complicated shapes making up the graphics – is an awful lotta work for an ST or Amiga to rotate and draw each frame.

That's in addition to the aircraft, buildings, hot-air balloons and any other goodies we have on the screen. (Each of *those* objects is an average of 30 polygons. One helicopter even has 67!)

This all leads onto the frame-rate wars. Every purveyor of 3-D graphics claims to have the fastest whiz-bang 3-D solids ever, but you have to bear in mind some aspects that affect the frame rate. To start with, there's your screen resolution, window size and number of colours. The amount of memory that's being filled will affect the frame rate a great deal.

FRAME RATE *The speed at which the graphics change*

Next, the complexity of the scene. That's how many polygons are onscreen, how big they are and how many sides each polygon has. Also, does the scene have a horizon (two big polygons in itself)? It's no good comparing the speed of a game that has only 30 small polygons on the screen with one that has 300! It's pretty obvious that ten times the amount of processing is going on, so you can't expect similar frame rates.

Also, the size of the polygons is important. We reckon that the majority of the processing time in *X* is spent actually drawing the 3-D scenes, and not so much is spent rotating and doing the maths. Of course, we have done a lot of work making the drawing and maths routines as fast as possible.

Another important factor is the time taken to detect collisions between all the moving objects in the 3-D world . . . after all, people would complain if they saw a tank drive through a building unhindered!

And more time is taken scanning through the database of the 3-D world, figuring out what's visible at a given point and what isn't. The more comprehensive the database, the slower this task is . . . and when there are a lot of moving objects, the results can't be prestored.

It's a good thing we aren't a one-man company any more, or *X* would never be finished.

**Jez San**

# BE TOTALLY DAZZLED BY incentive

## ●SOLVE the puzzle . . .

## ●WIN a £1,000 trip for two to Finland . . .

## ●PLUS £200 spending money . . .

## ●SEE a real-life total eclipse!



Once in your lifetime, you just might see a total solar eclipse – a uniquely impressive experience which seems, for a few amazing minutes, to blot out the mighty sun. And to celebrate the release of their stunning Freescape game *Total Eclipse*, which earned over 90% on 8-bit formats last issue and is soon out on 16-bit, Incentive are offering an opportunity to visit Finland in July 1990 and witness a total eclipse.

The five-day trip for you and a friend, worth about £1,000, includes return flights from London, four nights luxury hotel accommodation, tours around the cities of Helsinki and Joensuu, and of course an unforgettable dawn trip to see the total eclipse. Incentive are also throwing in £100 spending money per person, to cover any extra expenses you have.

### Totally baffling

To win this once-in-a-lifetime prize, for which you're competing with readers of our sister magazines CRASH and ZZAP!, you'll have to solve the wordsquare.

And to make it extradifficult, we're not going to tell you what all the ten words are. Oh yes, 'Incentive' and 'total' and 'eclipse' are in there, and you'll have to find them. But we'll only give you clues for the others . . .

**1 and 2** The two heavenly bodies involved in a total solar eclipse (4 letters, 3 letters).

**3** The revolutionary solid 3-D technique which Incentive first used in *Driller* (9 letters).

**4** TGM**014** described *Total Eclipse* as 'a ??????? experience – a program not to be missed' (7 letters).

**5** The country in which Incentive's game *Total Eclipse* is set (5 letters).

**6** The capital of Finland (8 letters).

**7** The country's second biggest city, located about 100 miles north and just west of the capital (7 letters).

Send your entries to **TOTALLY DAZZLED BY INCENTIVE COMP, TGM, *PO Box 10, Ludlow, Shropshire SY8 1DB* to arrive by February 16.** Usual rules as printed on the contents page apply. All the correct answers will be put into a hat with the correct answers from the ZZAP! and CRASH competitions, which are no easier than this, and one lucky name will be drawn – winning a terrific *Total Eclipse* trip for two.

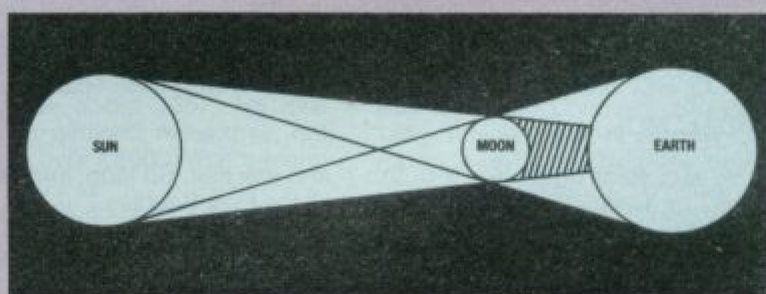


# THE WORDSQUARE

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| T | A | M | P | E | R | E | S | A | F |
| O | L | O | M | J | K | O | I | I | R |
| T | A | O | V | F | A | K | E | N | E |
| A | I | N | C | E | N | T | I | V | E |
| L | U | W | E | I | G | U | L | B | S |
| S | I | T | S | O | S | Y | E | A | C |
| A | D | L | O | E | R | F | P | C | A |
| M | E | C | L | I | P | S | E | T | P |
| H | A | H | K | E | T | Y | R | V | E |
| A | S | N | M | A | G | I | C | A | L |

The words can run up, down, across, or diagonally. When you find one, circle it or put a line through it. If you don't want to damage what Mel Croucher reckons will be a yuppie antique in a few years, send a photocopy of the page.

# FUN IN THE SUN




***Darkness at dawn: the total eclipse only occurs on a small part of the earth, where the moon blocks the sun's rays. In 1990, it's visible from Finland – where Incentive's prize trip coud take you.***

Incentive's *Total Eclipse* may be in every software shop in the land, but real-life total solar eclipses are about as rare as Egyptian pyramids.

The reason? A total solar eclipse (also called a total eclipse of the sun) depends on the moon happening to be right in front of the sun, as we see it from earth. And even then, the eclipse is only visible very briefly (for less than eight minutes) and from a small area.

Often that's a remote, inaccessible part of the world – most of the world is remote from Britain and inaccessible, after all – which is why very few people will ever see a total solar eclipse in their lives.

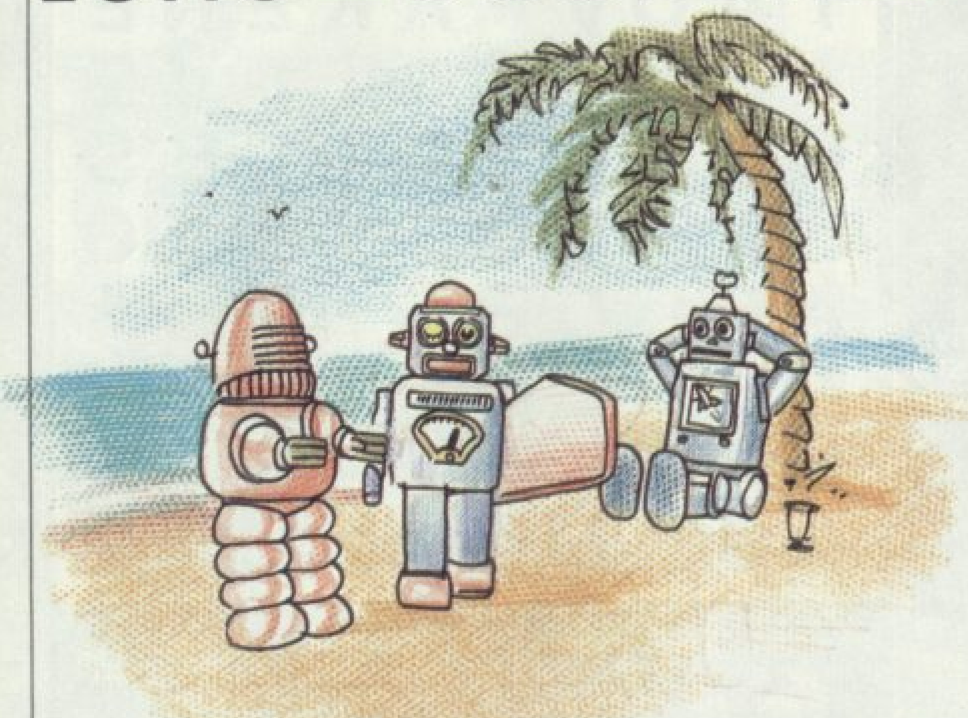
For instance, the last one sun took place over the Pacific Ocean around midnight on March 17-18 1988, lasting less than four minutes.

Partial eclipses of the sun, in which the moon only conceals part of the light, are more common – up to five of these can happen in any given year. One will be visible from Cornwall on August 11 1999 (yes, *ninety*-nine).

And then there are total eclipses of the moon, which happen when the earth stops sunlight reaching the moon and it seems to disappear. These are long and quite common – each year there can be up to three of 100 minutes each.

Readers interested in pursuing further the principles of ecliptic astronomy are referred to the work of Irving Berlin, who summed it all up as 'I got the sun in the mornin' and the moon at night'.

# ROBBIE THE ROBOT'S LONG GOODBYE



The stiff's Croucher, Mel Croucher. Landlord found him, lying right there. We didn't move him till the boys from forensic got over. Private dick, weirdo, seems like he was onto the collectors. Reckoned you could make a fortune out of old electronic toys and home computers.

There's a pile of notes, looks like he was talking to the boys down at Christie's. Couple of pictures, too, traced them to a guy called Robin Evans. Anyhow, read the notes. They'll explain a lot.

The sun went down like a bum boil on Clearasil. By the time I hit the office, the rubber plant was crooning *Only The Lonely* and the office coffee machine had joined the Contras. It had been one of those days. Tuesday evening, I hit the REPLAY button on the answering machine and the parrot delivered the only message I'd got since the Maltese Falcon went to work for Bernard Matthews.

Matthews! We'll come to that handle later. Anyway, the African Grey repeated the kiss-off from my partner, Robbie the Robot, born 1956 on Forbidden Planet. Robbie was 23cm high, had a rotating antenna on top, remote control, battery-powered, made by the Yoshiya Organisation, Japan, and his goodbye note hit me like a plutonium pork-pie hat on my bald spot.

We'd played together as kids, we were friends, at least *I* thought we were friends, and now he'd walked out on me after all these years.

His note was short: 'Goodbye, Mel, I'm going to a better place where people understand my true value, which is about 500 quid plus VAT. If you want to know why, find Mister Big and ask him. So long, and thanks for all the Ever Readies.'

Well, no plastic space toy's gonna walk out on me without a struggle, so I poured myself a stiff one and phoned Dan Dare. But old Dan had quit too! £240 for his 1959 memoirs, and he'd sold out. I didn't have to ask which putz had bankrolled him, I already knew. Mister Big! Panic began to grip my guts like a vindaloo, as I fell down the fire escape to where I'd parked my Karl Bud clockwork Atom Rocket Ship.

## Farewell my lovely

By the time I made the parking lot it was way past spit-on-the-griddle time. My tin ship was gone! All I found was a bill of sale from Mister Big for $200. Poor little Atom, she was only 30 years old and seven inches long!

What in Hell's name was going on? My personal history seemed to be evaporating by the minute, and not just mine; old Iggy the Ice Man was crawling in the gutter moaning about his SH-Nippon battery-operated Space Station, which had just defected to a London auction house for £270.

Then it clicked. They had struck! More dedicated than the Mafia, wealthier than the Vatican private bank, more ruthless than Ruth . . . I had been hit by the monkeys who spent cash like peanuts. The collectors were in town!

I had only one choice: find Mister Big. Track down the fence, the wheeler-dealer. Locate the guy who deals with the biggest hogs whose snouts are stuck in the collecting trough. It wasn't hard to find him – Tim Matthews, so laid-back he was still up the chicken's rectum.

He was so cool you could hand him a cucumber and it would freeze. Tim Matthews, the greatest expert in making money for old rope – his middle name is Frayed Knot. Tim Matthews, the man with the auctioneer's hammer in his hand and the plum in his mouth at Christie's, world-famous auctioneers of the overpriced to the overpaid.

I grilled him, but he didn't even break sweat. I knew that some bimbo was paying over the odds for kid's toys. I was working for an outfit called TGM. I knew my bread was buttered on the inside. And I had been palmed a handful of clues that electronic toys, plastic robots, tin rockets ships and science-fiction comic books were worth more than a poke in a pig. So I bugged the conversation.

Mel Croucher, electronic gumshoe, had cornered Mister Big, the guy who was handling stolen childhoods. Here's how it went down:

**Mel** £1,000 for a plastic toy! Who's kidding who?

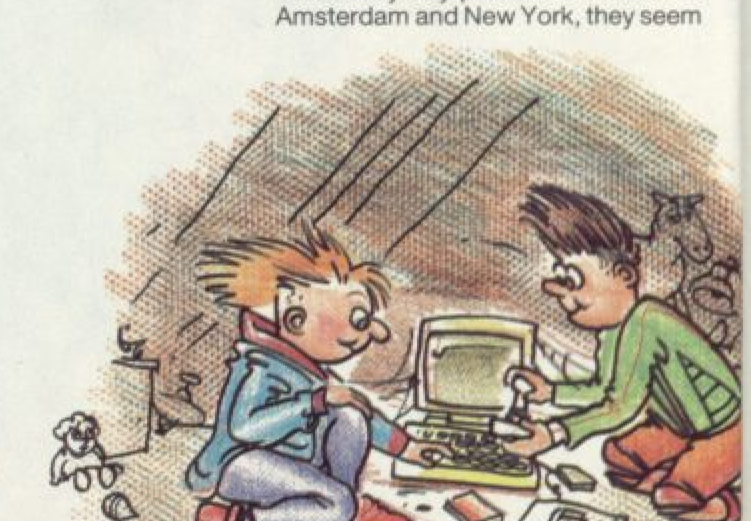
**Tim** Space toys, tin rockets, science-fiction ephemera, it's all rather stupid, I suppose.

**Mel** But are collectors really paying this sort of cash for computer toys and Robbie the Robot?

**Tim** It is is a hyperhyped market. It's all a huge fad which began in the United States about eight years ago. They went mad. They went bonkers. In my opinion it is a made-up market. Individuals with plenty of money who have invented instant antiques that by rights should never exist.

**Mel** But Christie's are doing all right by it, aren't they? Your specialist sales during 1988 were achieving lunatic prices for space toys.

**Tim** We had a sale in Amsterdam at which very silly prices were reached. Amsterdam and New York, they seem



to be the centres for these hyper-hyped collectors.
**Mel** What are the most collectable items, what's worth the most?
**Tim** Robot toys from the Fifties. Space vehicles, rocket ships. Things that cost next to nothing when you and I were children.
**Mel** Over £1,000 for the right toy to the right collector?
**Tim** Plus the Christie's standard fee of 10% on top.
**Mel** Including VAT?
**Tim** My dear fellow, plus VAT. Christie's always operates plus commission and then adds the VAT.
**Mel** So for a Sixties Japanese Space Explorer 3-D toy TV screen, the collector is paying £1,300 . . .
**Tim** Plus our 10%, plus VAT. About £1,600!
**Mel** But if the silly money is coming from New York and Amsterdam, what is your advice to TGM readers who find Dad's collection in the attic, or come across these old space toys at jumble sales or in Oxfam shops?
**Tim** In Great Britain, I would not recommend that hopeful readers turn up at Christie's with boxes full of plastic space toys. These prices are bonkers, and your readers are best advised to advertise them privately or swap them. Don't forget, if they put them into auction with Christie's and they don't fetch the reserve price and fail to sell, we charge a 5% buying-in fee.
**Mel** So hang on to them.
**Tim** Precisely.
**Mel** What about ancient computers, what about 'vintage' software?
**Tim** No. Absolutely not. Not yet, anyway. But who knows; who would have imagined the value of an ivory slide rule or a mechanical adding machine these days, now that computers and calculators have made them as extinct as the dodo? The fact that an organisation such as Christie's is auctioning mass-produced robotic toys from the Fifties and Sixties would have seemed ludicrous a decade ago.

## The lady in the know

Matthews terminated the conversation. He was off to slap a £412 price ticket on a 1966 transformer robot with a flashing red dinosaur's head inside its robot mask (Dyno Robot, made by Horikawa).

So it was true, bimbos were paying big money for old junk. But why? Did they need their heads examining to reveal a flashing red monster? I had to get out of here.

A bubble-blowing model of Popeye the Sailor walked past (made by Linemar and worth £240) as I hailed a passing Supersonic Moon Ship (made by TM and brought for £110) and headed downtown to find some answers.

I trawled the bars till I found her, cradling an Edison talking doll in one hand and a toy boy in the other, Susan Fischbach, crazy name, crazy dame, who knows more about collecting toys than I know about fly-fishing. I picked up the the tab for a bottle of stout, and began pumping her:

**Mel** Hi honey, want an Action Man?
**Sue** Bog off, Croucher, before I call the cops.
**Mel** Who's the doll?
**Sue** This is a Mae Starr talking doll, about 100 years old, with four miniature Edison phonograph cylinders in her guts. She is very rare and beautifully made, and she fetched £300 at Christie's.
**Mel** And here's a Christie's catalogue showing a Yonezawa Mark II Talking Robot, made about 1957. He also speaks four different messages, but he fetched over £800! What's going on?
**Sue** It's insane, I know. Today's rich bastards are yesterday's little kids who grew up with toy robots and primitive games consoles. They are trying to recapture their childhoods, and they don't care what they pay. This antique doll wouldn't mean a thing to them, whereas the Japanese robot is part of the collector's own past. It's like the huge prices being paid for old comics and annuals, compared to genuine antiques.
**Mel** So what is a ZX80, a Vic20 or a Dragon 32 going to be worth by the year 2000?
**Sue** Value has three components, as far as the collector is concerned. The obvious one is intrinsic value: a set of silver spoons started off being valuable, whereas a Sinclair ZX80's components are worth bugger all. But then there is the nostalgia factor, and that old computer is going to mean a lot to someone who cut their computing teeth on it when they are geriatric.

Finally, there is rarity, and that's why these postwar robots are fetching big money. When children got bored with them, or broke them, they simply threw them away. As for games consoles and computers, the earlier ones are getting rarer by the week. People just junk them.
**Mel** So what is worth hanging on to?
**Sue** Everything!
**Mel** Including a Speak-and-Spell machine?
**Sue** Last year Christie's auctioned a 1964 Ichida Mark III Answer-Game robot. A revolting thing that answers basic mathematics questions. It fetched over £1,300. So what price a Speak-and-Spell in the next century, God knows. My advice is to hang on to all those old calculators, especially the first Sinclairs – they are bound to become collector's items. I mean, even a Thirties Mickey Mouse watch is worth a small fortune, and the Sinclair LED machine is much more beautiful.
**Mel** Your round, Sue.
**Sue** I know, my hormones have been playing up.

I hit the streets again. This one was big, very big, toughest case I'd had since we cracked the Code Masters ring. We had enough on the collectors to pull them in anytime, but there'd always be more. Right now I felt ready to talk it through again with a slug of bourbon.

Something felt different as I moved up the stairs. As soon as I opened the door I knew what was wrong. The rats had taken Joyce, my word processor. But it wasn't the collectors – that was staring at me from the note on the table. It was TGM. They were in on it. They wanted what I knew. And fast.



***The Mister Big of technotoys: Tim Matthews of Christie's*** PHOTO: Christie's

**"Today's rich bastards are yesterday's little kids who grew up with primitive games consoles."**


"THE BIGGEST GAME EVER" GAMES MACHINE
The Kristal
"The most impressive looking backgrounds, action areas and character sprites that have been created for home screens." "Hauntingly realistic..." Amiga User International.
"Animation, authentic sword fights, beautiful digitised speech, an original sound track, the feel of a professional and successful stage production." ST User.
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The KRISTAL is the first of its kind... "An experience once played never forgotten."
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"Complex game play, stunning graphics, nice sound and sense of humour. What more could you wish for?" Computer Games Week.
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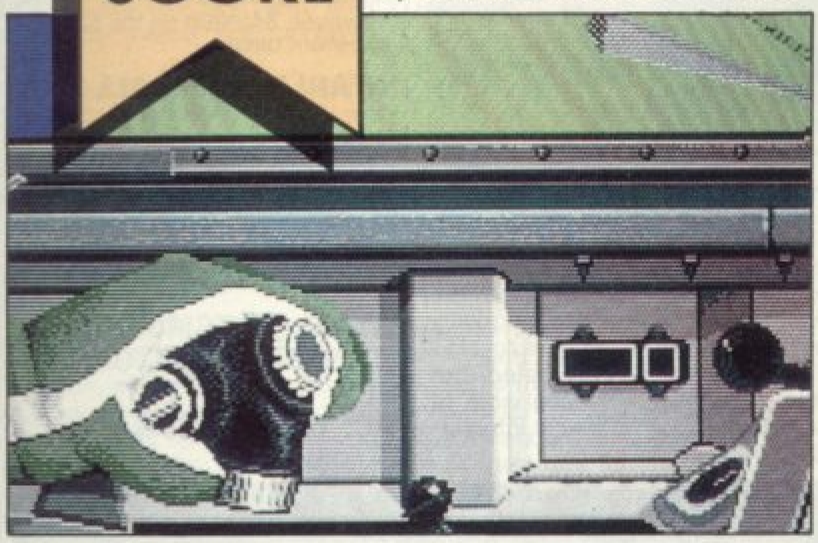
# The Games machine

# REVIEWS

## 64 ■ F-16 COMBAT PILOT

The Games machine TOP SCORE

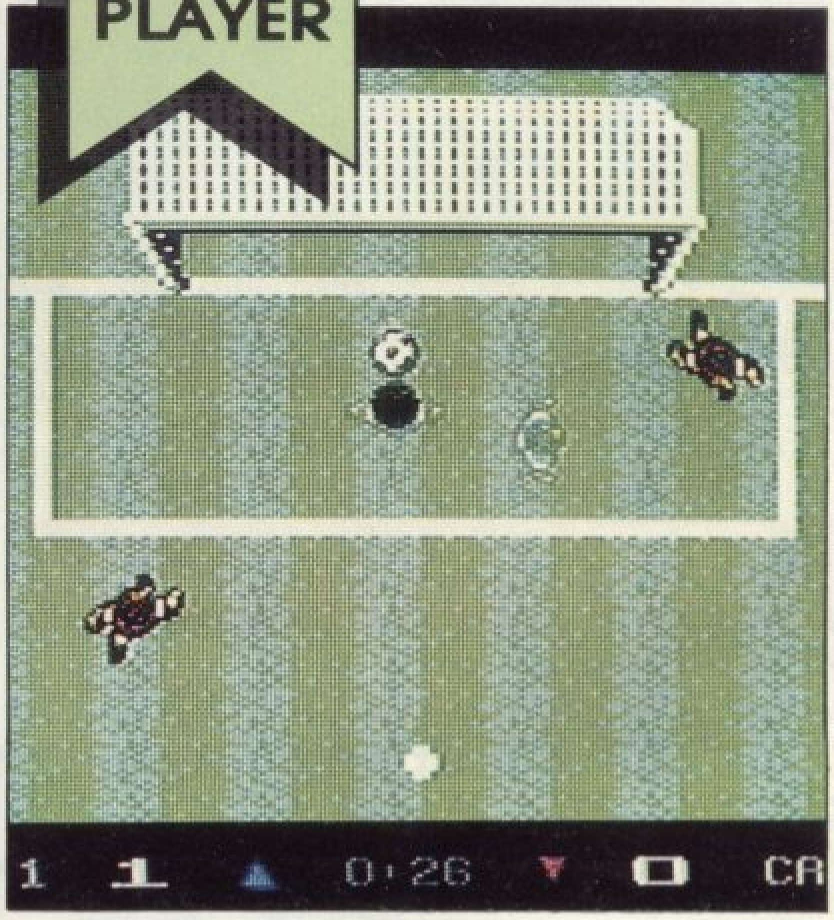
Digital Integration may have been keeping a low profile of late, but they had good reason. *F-16 Combat Pilot* sweeps majestically out of its development hangar with an impressive nine man-years hard work behind it. Reviewed on PC and ST, but soon to fly high on all major formats, *F-16* is so realistic – whether just in practise mode or on a deadly mission – we recommend you keep a sick bag handy for those 7-G turns.



## 53 ■ MICROPROSE SOCCER

The Games machine STAR PLAYER

Now's your chance to compete in the World Cup, International Challenge or the indoor league without having to wear silly shorts, freeze to death or knacker yourself running up and down a pitch. MicroProse depart from their usual style of simulation to bring you the most addictive, fun-to-play and challenging football game yet – kissing other players is optional.




## 59 ■ AFTERBURNER – C64 VERSION

The Games machine TRASH

Experience tremendous gameplay; thrill at the realism of flight; battle your way through incredible odds; be stirred by emotional music and stunning sound effects; feel as though you're really there . . . then load *Afterburner* on your C64!

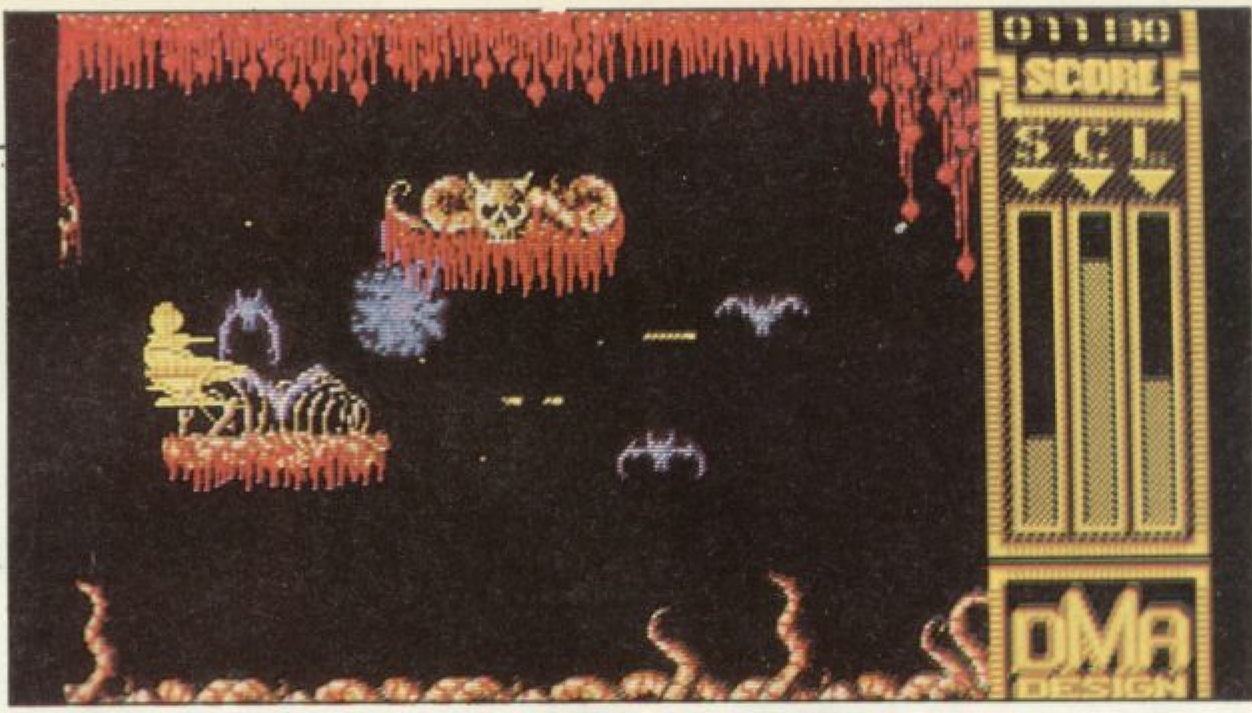




PRESS ANY KEY

VERSION UPDATE

## MENACE
**Psyclapse**




*Low shields and the ST's horizontally reduced play area calls for deft dodging*

**Atari ST: £19.99**

**SIX** less-than-ethical rulers, exiled from their own galaxies, have formed an alliance and created a world of their own – Draconia. Each ruler uses his resources to develop intelligent fighter-spaceships and fierce mutant creatures to guard their part of the planet. Used as a base for marauding fleets, their threat must be removed.

Sneaking past satellite defences, you begin in the sea of Karnaugh, the first of six horizontally scrolling levels. Waves of aliens – ships, jellyfish, spores, skulls and pterodactyls – advance towards you. They release an icon if the entire wave is destroyed. Beginning as a 1000 points bonus, these are shot to give speed-ups, cannon, lasers, out-riders (multiples), shield replenishment or force field.

The colourful sprites and ubiquitous end-of-level adversary are of the same clear quality as the Amiga original, but there is less room to manoeuvre around them. This is because a broad status panel is situated vertically at the right of the screen, making the play area shorter and level-ends cramped. Levels themselves are longer, increasing difficulty, but play is slower.

The panel and your ship are yellow and black. Even considering the ST's relatively limited colour capabilities, a better scheme should have been worked out. Sound is less clear and samples quieter than the Amiga game, however, *Menace* on the ST is an excellent blast.




*An under-nourished end-of-level nasty looks aghast at the tackily coloured spacecraft*

**ATARI ST: OVERALL 75%**

**AMIGA: TGM013 78%**

VERSION UPDATE

## CAPTAIN BLOOD
**Infogrames**

**Amiga: £24.95**

**CHARLES DARWIN** has a lot to answer for. Not just his theory of evolution, but also for telling down-trodden programmer Bob Morlock that aliens are invading Earth through arcade machines.

Bob went into action by coding a ship (ARK) and a version of himself (Captain Blood) to fight the invaders – he became trapped inside the program. Jumping to hyperspace to avoid an alien attack, a malfunction splits his body into 30 clones, each taking a proportion of his life fluid.

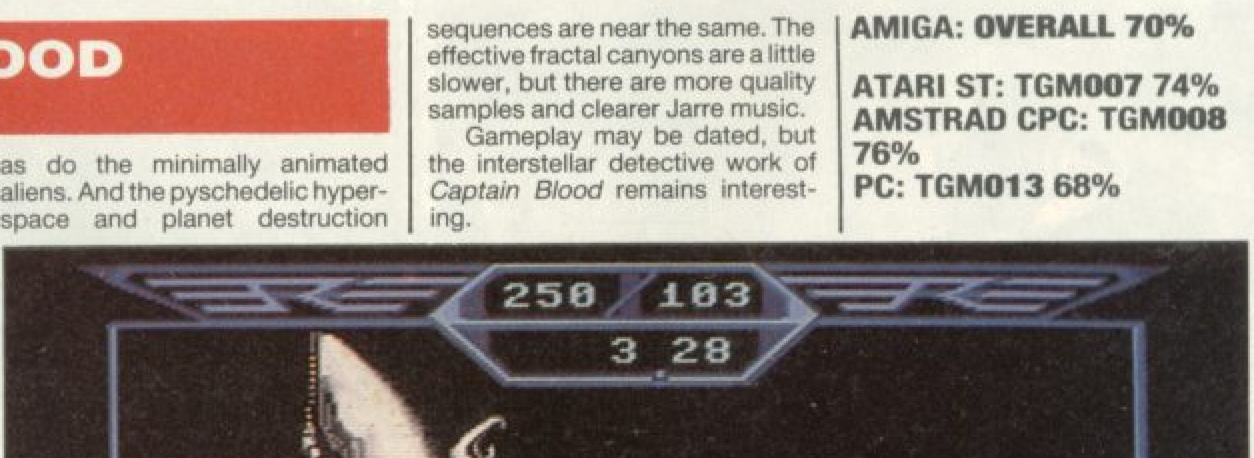
As the game begins, Blood has already been at work and only needs to find five remaining clones – spread through 32,768 planets! Using ARK's galactic map, planets are hyperspaced to and investigated using Oorxx creatures. If an alien is found, it is communicated with via icons, and may give information leading to a Blood clone.

There exists a strong similarity to the ST version. Display panels use the same attractive shading, as do the minimally animated aliens. And the pyschedelic hyperspace and planet destruction sequences are near the same. The effective fractal canyons are a little slower, but there are more quality samples and clearer Jarre music.

Gameplay may be dated, but the interstellar detective work of *Captain Blood* remains interesting.

**AMIGA: OVERALL 70%**

**ATARI ST: TGM007 74%**
**AMSTRAD CPC: TGM008 76%**
**PC: TGM013 68%**




*Geiger-esque graphics for suitably alien communication*

# BAT'S LIFE

## BATMAN
**Ocean**

The Caped Crusader – now also known as the Dark Knight, due to one of the recent in-vogue graphic novels – has had a long history in DC Comics, and the recently revived tacky television programme. His computerised life is not so long, having starred in an isometric 3-D game in May 1986, but is sure to go further as next year, there will be a third game, based on the forthcoming movie.



Pulling on boots and mask, and tying your sweeping cloak around your neck, it's time to take a heroic stance as Batman, guardian of Gotham City.

Two dastardly enemies threaten peace, hence *Batman* is split into two independent halves.

The first features the vile plans of the fat waddling villain with the strange laugh – the Penguin. The plot, entitled *A Bird In The Hand*, has him apparently going straight after a stint in jail. The Penguin opens an umbrella factory, near his luxurious mansion, needless to say, this is a cover (pun intended!). Robot penguins are manufactured and let loose as part of a plan for world domination. You must infiltrate his mansion and shut down his master control computer.

The first few locations feature the Batcave (as do those of part two) which leads out to the street and eventually Pengy's mansion. Locations are shown in frames of varying shape and include short captions, comic strip style – as the game develops, location frames are overlayed.

### Dinner dinner

You walk left, right and in and out of the screen (using marked doorways), picking up objects as you go. A command menu allows objects in your inventory to be dropped or used, music to be turned off, game quit, and shows your remaining energy as a series of bars.

Energy is lost on contact with bats, mechanical toys, henchmen and their bullets, but can be regained with consumable objects. Revenge can be had on henchpersons with fighting moves or your batarang.

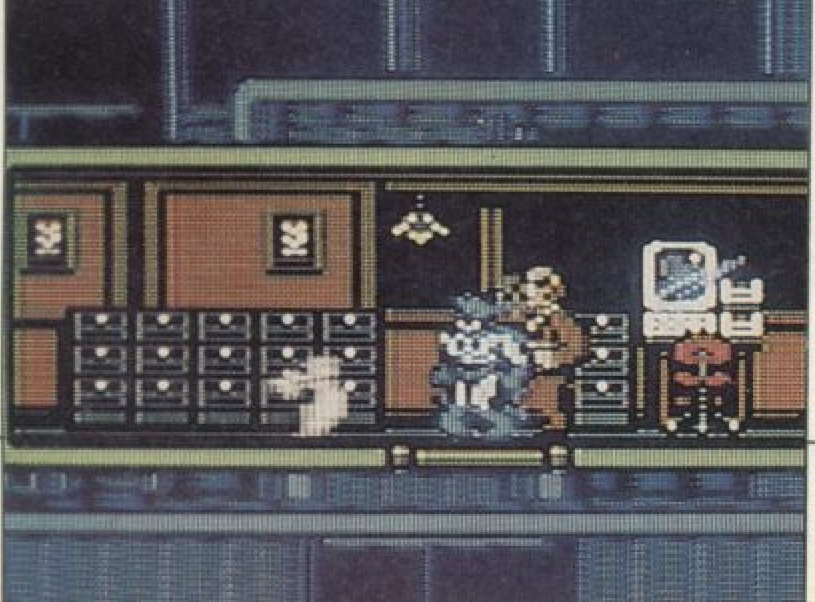
The second and most difficult half is *A Fete Worse Than Death*, where Robin has been kidnapped by the Joker. From a cryptic clue left behind, you deduce he is being held at the local fair, and also that your cavernous home is under threat by several bombs planted beneath it.

A simple arcade adventure, albeit with beat-'em-up undertones, is an unambitious game format for a licence, but solving crime in Gotham City through logic and violence is an amusing vocation. It is hindered by the number of henchmen, particularly on the C64, who don't die, fall unconscious or simply go away no matter how much you hit them. Luckily, with two independant adventures, their attacks are bearable.



*The batcave, where millionaire Bruce Wayne practises walking like one of the Marxs brothers (C64 screen)*

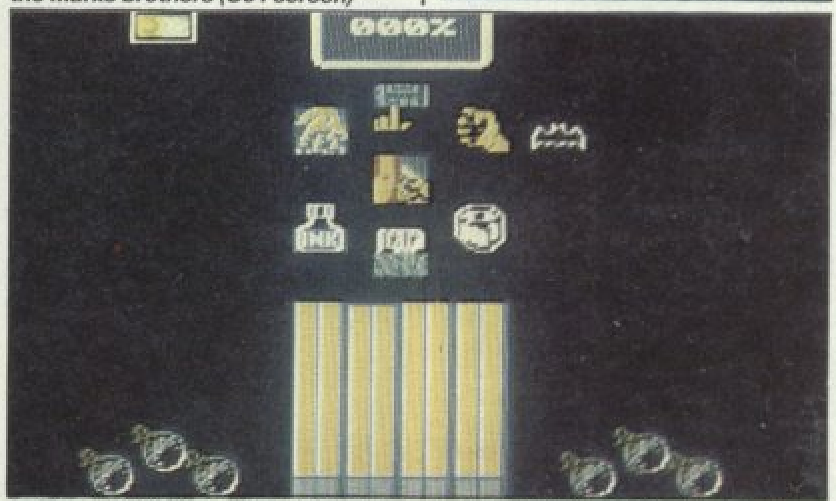
*'Hah! That didn't hurt. (C64 screen)*



**COMMODORE 64/128**
**Cassette: £9.95**
**Diskette: £14.95**

**Batman is a decidedly short fat sprite, so perhaps it's logical that his punches have little effect on enemies. His energy takes a pounding by the constantly marauding minions who, like the Caped Crusader, are colourfully defined and walk with a loping swagger. Few sound effects and middle-of-the-road music reside.**

**OVERALL 71%**



*The utility screen from which items are manipulated (Spectrum screen)*

**SPECTRUM 48/128**
**Cassette: £9.95**
**Diskette: £14.95**

**Highlights of colour cause clash, but a monochrome mode may be selected, along with a screen background colour. Characters are detailed and Batman looks taller than his C64 counterpart. Zombie-like henchmen are slow and less damaging than on the Commodore, increasing playability.**

**OVERALL 76%**

**OTHER FORMATS**

**Amstrad now (Cassette £9.95, Diskette £14.95), with ST (£19.95) and Amiga (£24.95) very soon.**

**"Solving crime in Gotham City through logic and violence"**

PRESS ANY KEY

# ENDOR LIFE AS WE KNOW IT

## RETURN OF THE JEDI
**Domark**

The Empire has been giving the rebel alliance a rough time of late. Following their victory in the battle of Yavin against the Death Star, and subsequent defeat on Hoth, Luke and his buddies regroup to strike against the heart of the enemy – a second Death Star. Orbiting the moon of Endor, Death Star II, when complete, may prove the undoing of the alliance, it must be destroyed before it's ready for action.

The alliance divide forces: group one sets out to destroy the Death Star's shield generator on Endor, clearing the way for group two to fly in and destroy the reactor.

Split into four stages, battle takes place on Endor and in space, as the two groups take on the Empire's might. The first scene features Endor, where Luke rides through the forest on a speeder bike – imperial bikers give chase, firing lasers as hunter and hunted race through the trees. Cuddly Ewoks make a potentially helpful appearance, holding up ropes and pushing tree trunks together after a speeder bike passes through – make sure you get through first though!

The second phase on Endor has Han and Chewbacca in a stolen AT-ST, rampaging through the forest towards the shield generator. If not for logs rolling toward you and totally confused

**ATARI ST**
**£19.95**

**Zaxxon-style scrolling is not a speciality of the ST, but Jedi's is admirably executed, if a little rough around the edges. Colour is used to good effect and characters are well defined (the Falcon doesn't look much like its cinematic brother though). Crackly speech is present, but doesn't play as prominent a role as in the previous two games.**

**OVERALL 77%**

*Ewoks and droids alike wave joyfully as they Luke at who has arrived (Spectrum Screen)*




*Taking out the central reactor – first the movies, then a meal, then a nightclub . . . (ST screen)*




**AMSTRAD CPC**
**Cassette: £9.95**
**Diskette: £14.95**

**Featuring the best 8-bit presentation, Amstrad Jedi uses colours to great effect, although scrolling is slow and awkwardly-executed. Some graphics are crude – George Lucas may be disconcerted to see Luke riding a vacuum cleaner through Endor's forests. Gameplay is good enough to make Jedi one of the better Amstrad games around.**

**OVERALL 75%**



Logs of fun with those furry little creatures (Ewoks, not Robin Hoggs) (ST screen)

**COMMODORE 64/128**
**Cassette: £9.95**
**Diskette: £14.95**

The third in the trilogy adopts a scrolling, solid-graphic technique – bread and butter for the C64 – rather than utilising vector graphics. The result is a smooth, fast game – the most playable of the 8-bits. Sober to look at due to the dull colours used and with strangely quiet sound, Jedi is nonetheless considerably better than were parts one and two.

**OVERALL 73%**

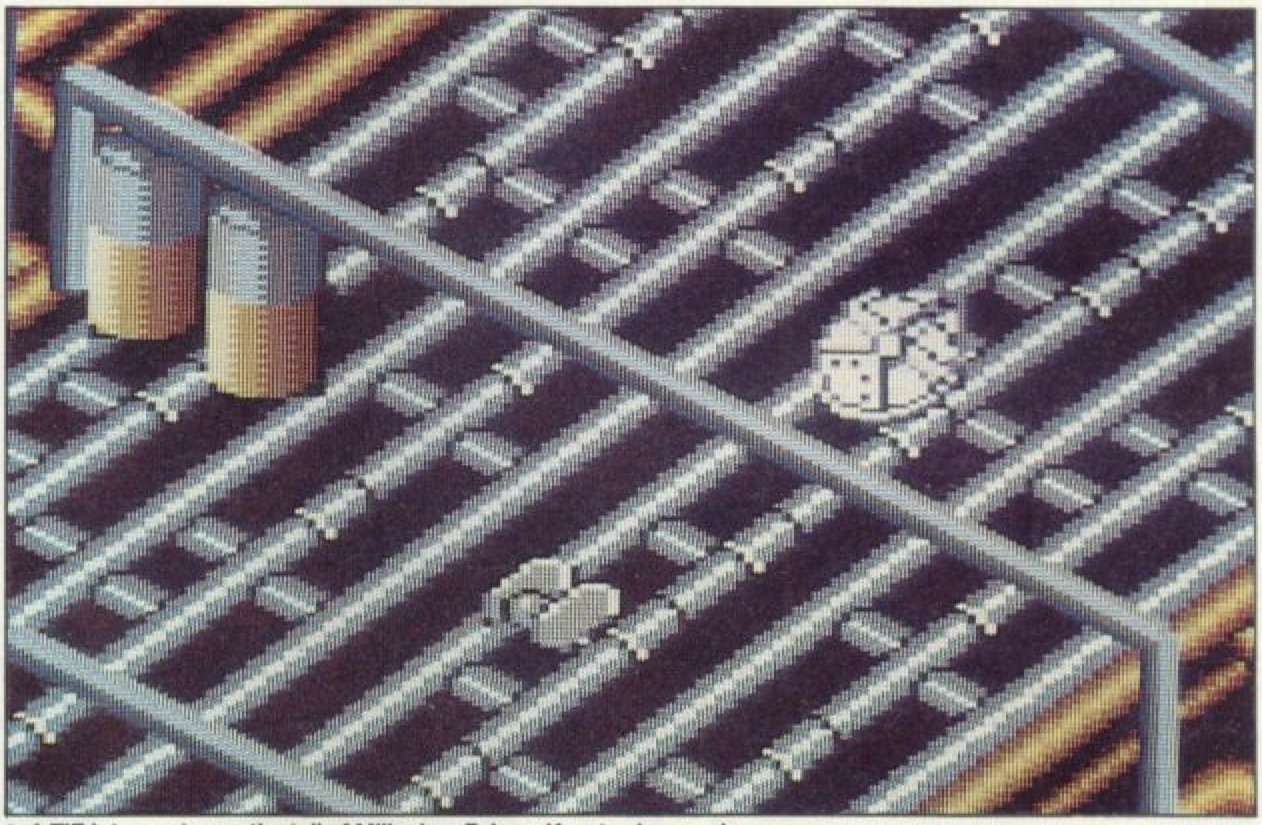
Ewoks throwing rocks, this section would be a doddle.

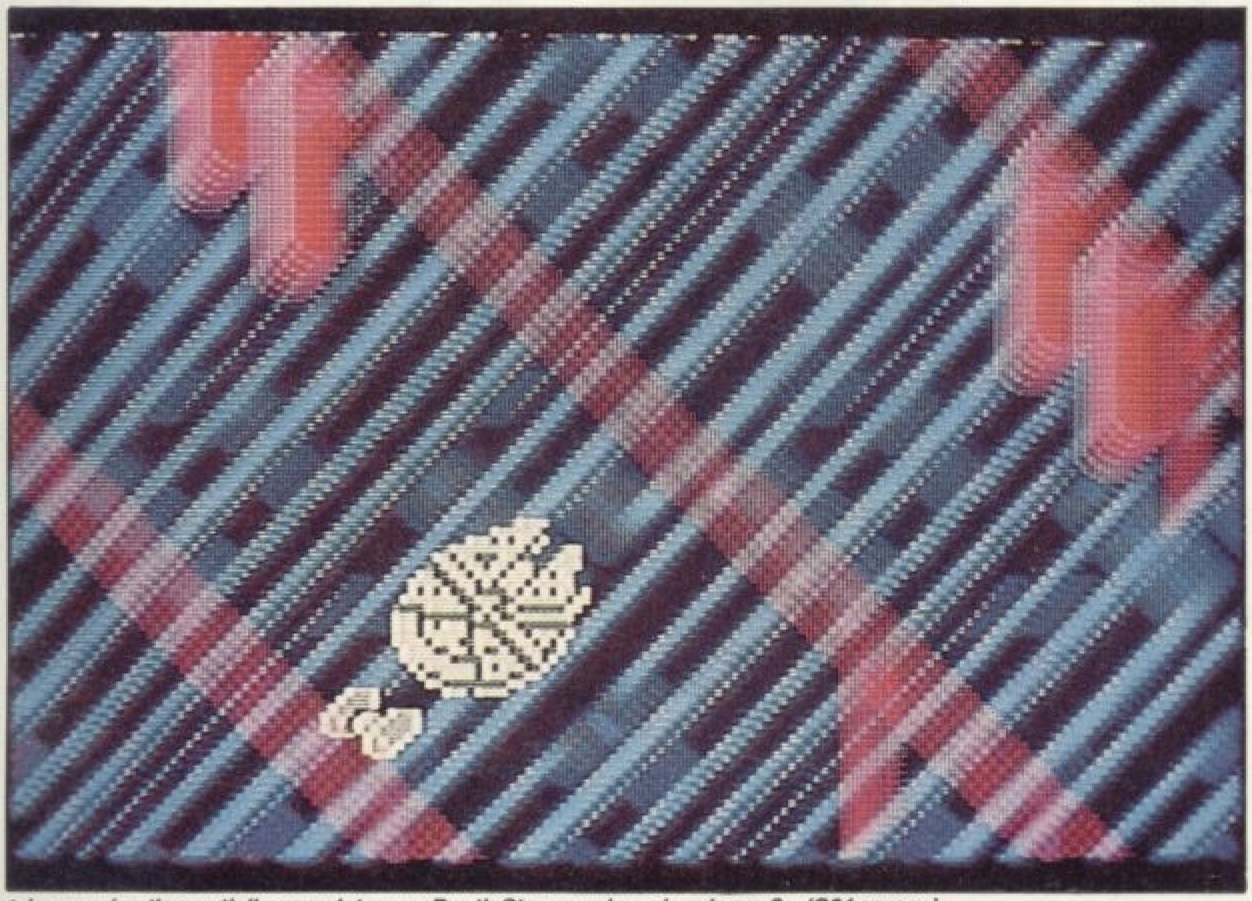
## Look, no Han

In true cinematic style, the action switches between Endor and the space battle where Lando flies over Star Destroyers as he takes on TIE Fighters. Alternating between Endor and space continues until the AT-ST nears the bunker and, with a casual lob, throws a grenade in – up it goes.

With the shield gone it's time for a final assault on the Death Star – Lando flies the Falcon into the battlestation. With his superior flying skills and the fastest heap of junk in the galaxy, Lando avoids pillars and TIE fighters as he races to destroy the reactor – and get out without being cooked.

Potential may have been missed by not using vector graphics, as in the previous two games, but the new approach is natural for most home computers. The resulting game is very playable across all formats.


A TIE Interceptor on the tail of Millenium Falcon (Amstrad screen)


Is escaping the partially complete new Death Star merely a pipe dream? – (C64 screen)

**SPECTRUM 48/128**
**Cassette: £9.95**
**Diskette: £14.95**

The necessity for precise control and persistent, accurate enemy bikers make the Spectrum Jedi the hardest of the lot. What it lacks in colour it makes up for in smooth scrolling and great presentation. A good game with which to end the trilogy.

**OVERALL 71%**

**OTHER FORMATS**

Amiga owners can take on the Empire any day now, for just £19.95.

**"In true cinematic style, the action switches between Endor and the space battle"**

# WHILE JUST STARTING ON BBC1

## A QUESTION OF SPORT
**Elite**

BBC TV's *A Question Of Sport* is now such a long-running quiz programme that many people have forgotten when it first started (David Coleman certainly has). Still, its success cannot be denied, being the most popular sports quiz on TV (not a huge amount of competition, there) and wallowing in peak viewing figures of 19 million – a third of the population and a Princess can't all be wrong.

Hosted by the indefatigable David Coleman, *A Question Of Sport* has been through a number of team captains in its time. For the current series it's good old reliable Bill Beaumont and new-boy Ian Botham. Now you can emulate your favourite captain by leading your own team in a nerve-tingling quiz.

Matches can be played against the computer or another player – or for real authenticity, with three players per team, passing the joystick around as necessary. Other than team captains, members are chosen from portraits of Elite staff and a specialist subject is chosen for each.

The game is split into six rounds, each relying on sports trivia questions. Round one features the Picture Board, where all six members choose a numbered square and answer a scrolling question from four possible replies. Two points are awarded for a correct answer, but running out of time or getting it wrong passes the question over to the opposition for one point. Each round takes this general format.

In the Mystery Personality round you are given up to three clues on a person's identity, the sooner their name is selected from the four options, the more points you earn.

Home Or Away concerns your choice of specialist subject. If you go home, a question on that subject will be asked for one point; if away, a random sporting question is attempted for two points.

### Sporting sporting captains

Probably the most interesting round of the TV programme (well we think so) is What Happens Next. Four possible outcomes of a described situation are given, varying from the sensible to the mildly ridiculous.

The Spectrum's Quick Fire round gives you 45 seconds to answer nine questions. Should you get one wrong, two seconds are deducted from your time. On ST and C64 this round is similar, except both sides play simultaneously. The fastest team to choose an answer gets two points, or gives the opposing team a point if answered incorrectly.

The final round returns to the picture board for the six remaining numbers.

To capture the spirit of the TV programme, *A Question Of Sport*, the computer game, should provide its visuals and exact round formats. Instead, it has been limited to sports questions with a few appropriate graphics and names added. The rounds have been twisted to fit into multiple-choice questions and answers, which soon becomes boring. There are six blocks of questions to load, but even sport addicts may find it difficult to stifle the odd yawn.

**SPECTRUM 48/128**
**Cassette: £14.99**
**Diskette: £14.99**

**Team-member portraits are the only real graphics of the game, and unfortunately they're not digitised, leaving the hand-drawn faces mostly indistinctive. Bleeps of acknowledgment are the only sounds of this considerably overpriced version.**

**OVERALL 38%**

*'Errrr, quite extraordinary digitised portraits on the ST here. Remarkable.'*




**COMMODORE 64/128**
**Cassette: £14.99**
**Diskette: £19.99**

**The coloured portraits are quite nicely drawn, and there are some pleasant sounds and good title music. The scrolling messages are well written, so presentation is mildly better, but it remains expensive for what it offers.**

**OVERALL 40%**

**ATARI ST**
**£19.99**

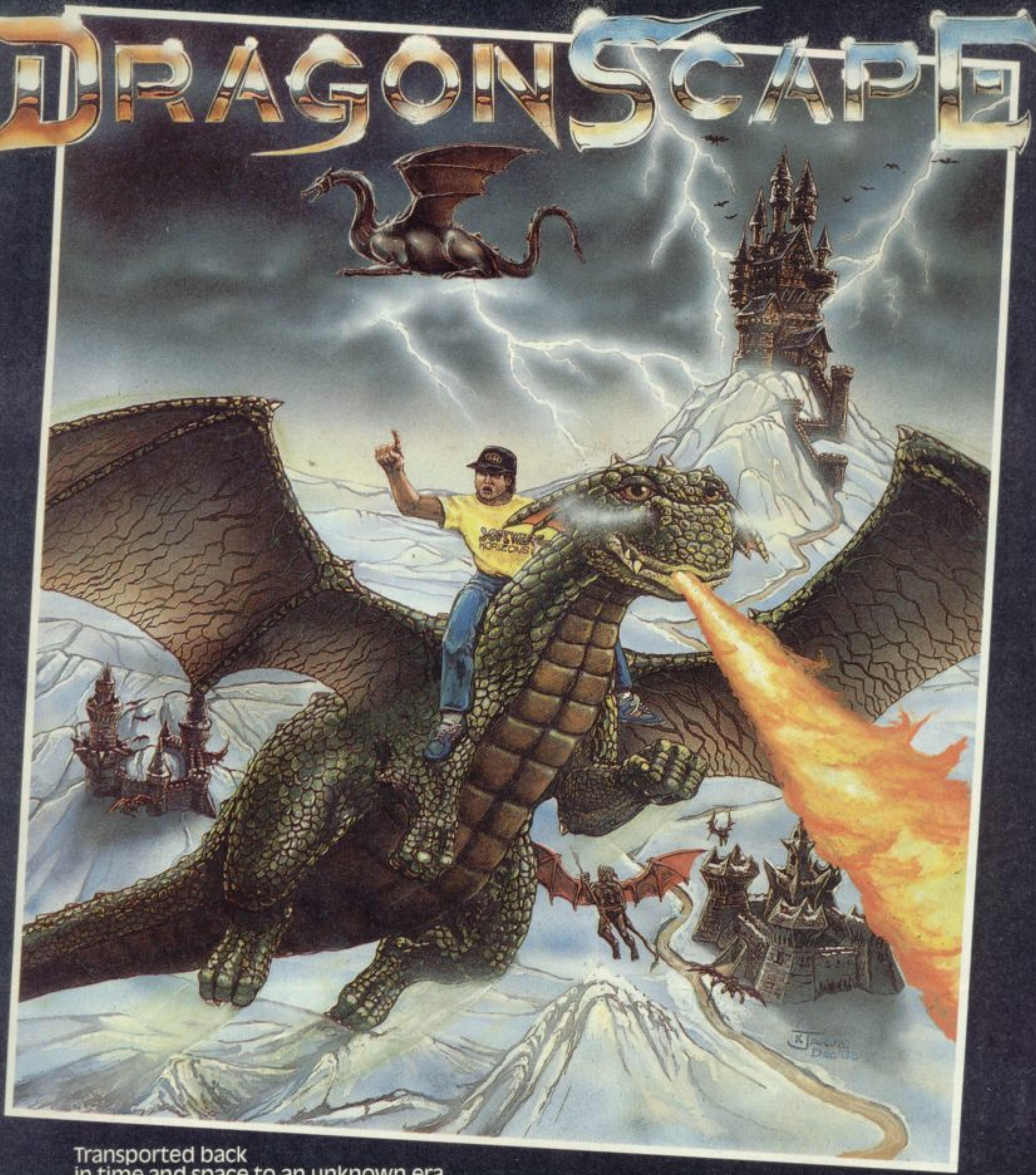
**The ST's only graphical feat is to mix the Atari's hi-res and medium-res modes for digitised portraits and colourful borders on the same screen. Sound is restricted to mediocre jingles and music and the occasional brief effect.**

**OVERALL 42%**

**OTHER FORMATS**

**Amiga (£24.99), Amstrad (Cassette £14.99, Diskette £19.99) and PC (£24.99) are set for release over the next couple of months.**

**"Limited to sports questions with a few appropriate graphics and names added"**




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ZZAP 64 – "I thoroughly recommend Arkanoid – for the simple reason that it's simply gorgeous playing with it."
COMPUTER GAMES WEEK – "The take home message is simple. You want a great arcade game?"
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COMPUTING WITH THE AMSTRAD CPC – "This is an excellent game."
ACE – "Incredibly frustrating playable and addictive."
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ARKANOID REVENGE OF DOH
AMTIX – "Excellent – can't fault it. A future number one."
YOUR SINCLAIR – "Immensely impressive and chronically addictive. A Classic."
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# BYDO-WRECK CONNECTION

## R-TYPE
Electric Dreams

Earth is about to meet its maker as the Bydo Empire contemplates its destruction. The inhabitants have banded together to combat the threat and created the R-9 fighter craft – designed by robots, built by robots, tested by robots and flown into battle war by a suicidal nutcase – guess who!

You and your ship are promptly sent out to lecture the Bydoans in the ways of the laser bolt.

Other than an on-board variable-strength laser, weapon power-ups are made available for collecting – providing R-9 with homing missiles, shields and a force drone armed with a variety of weapons. Through progressive blasting, collecting and more blasting, R-9 builds up firepower until it's one mean fighting machine.

When you're fully armed with homing missiles, reflection lasers and a force drone that cuts a path through alien ranks, the feeling of power is tremendous.

### Stomach the bowels
Unfortunately, like most games of this type, lose a life and you lose all weapons – and almost any chance of getting through to the next level. This is an unfair punishment which makes for a tough game – gameplay keeps you coming back for more though, and limited continue-plays provide a fighting chance.

Each level takes you further into the bowels of the Bydo Empire, with swarms of aliens and mega-opponents of all shapes and sizes to deal with. Amongst them, the infamous red mother-creature, the second-level alien-heart, complete with snakes, the third-level extra-terrestrial spaceship, even worse creatures are met as you progress through the eight levels.

A game idea not without its many clones, *R-Type* scores on its gameplay, action and addictiveness. An incredible blast!

**ATARI ST**
**£24.99**

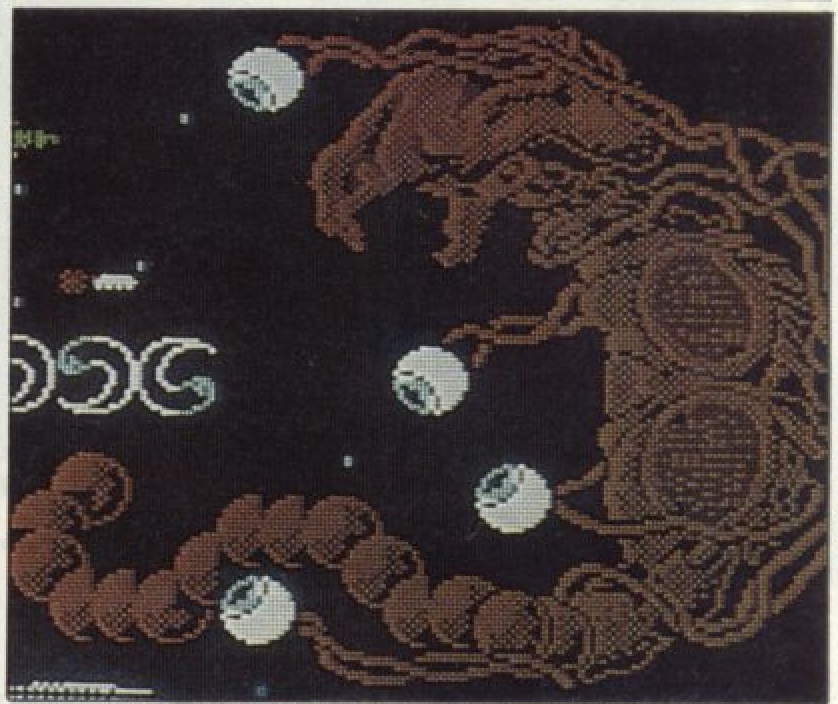
R-Type **shows what** Software Studios **can do when they get down to business. The inevitable jerky scrolling is present but sufficiently low-key to not be noticed. Each level and enemy sprite is attractively presented and remains faithful to its origins. Although the use of colours is not subtle, and there's an absence of colour in the scrolling background, the end result proves that even a highly graphic-intensive coin-op can be converted with considerable success.**

**OVERALL 82%**

**SPECTRUM 48/128**
**Cassette: £9.99**
**Diskette: £14.99**

**Making excellent use of the host machine, this version is a sight to see with its incredible use of colour, minimal attribute clash, masses of aliens to blast and frantic gameplay. A small point for complaint is the slow scrolling – hardly noticable as you're too busy killing and avoiding. This game blows away almost every other shoot-'em-up on the Spectrum to date.**

**OVERALL 90%**



*Alien-blasting mayhem at its best with this great Spectrum conversion*



*With the remote-device fitted, the game's a snip – until level 2 (ST screen)*

**OTHER FORMATS**

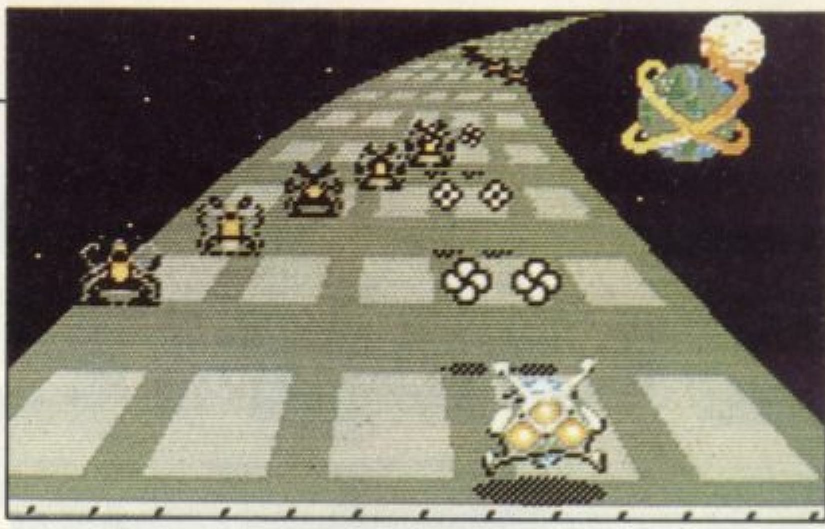
***R-Type* is now available on C64 and Amstrad, (Cassette £9.99, Diskette £14.99). An Amiga version is planned for February (£24.99).**

**"When you're fully armed, the feeling of power is tremendous."**

VERSION UPDATE

# A dislike of citrus fruits

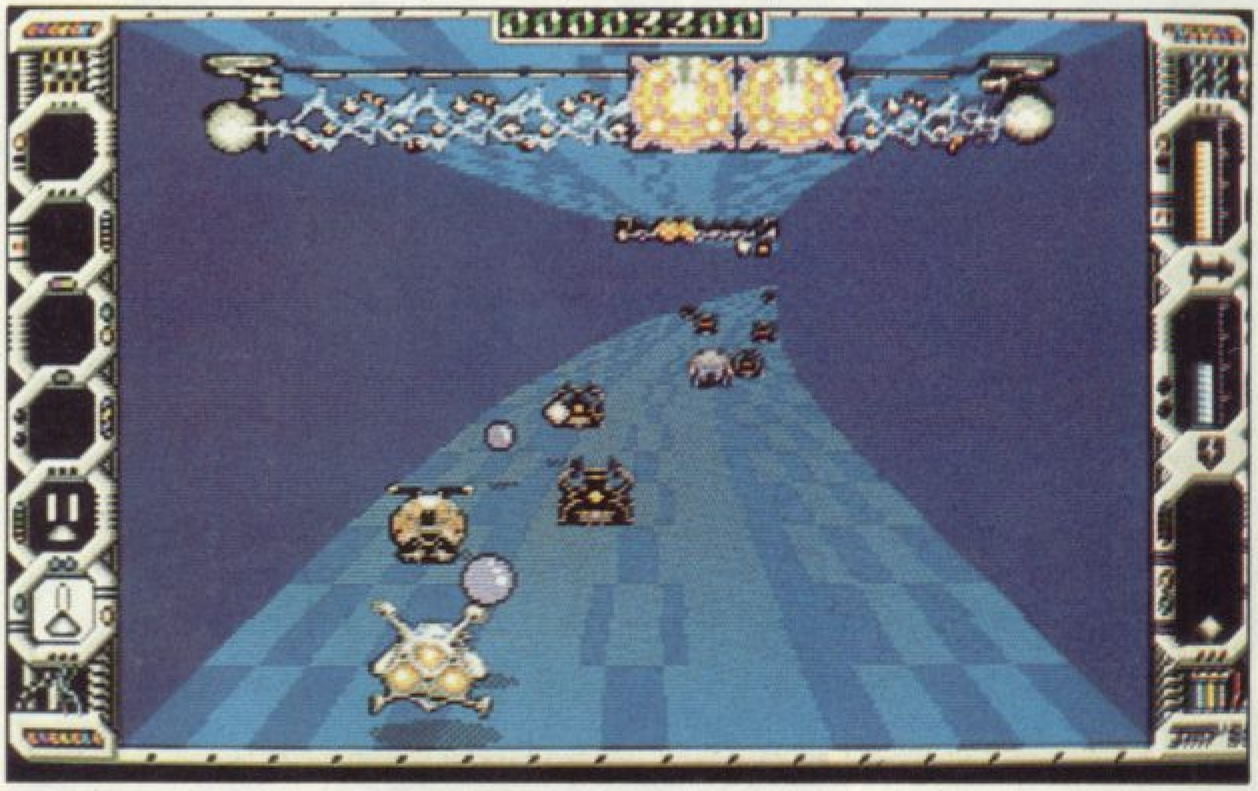
## ELIMINATOR
**Hewson**



**Amiga: £19.99**

**JOHN M PHILLIP'S** ST tunnel-racing/razing game arrives on the Amiga through the capable hands of Swiss programmers **Linel**.

*Eliminator* involves destroying any aliens foolish enough to get in your way – out-and-out blasting without reason, racing down 3-D corridors against a surreal space background.



*← A gentle curve to the right, but a chequered future lies ahead*

Even with collected extra weapons, bug-eyed monstrosities remain a problem – try not to run into them or absorb too many bullets – death is permanent.

Barriers, fires and stretches of acidic water all add to give you a tough time. Fortunately zooming over ramps throws your Eliminator craft up and over obstacles, or even onto the ceiling for thrills and spills of the upside-down kind.

Scoring massively when it first surfaced on the ST, *Eliminator*'s Amiga debut is just as frantic a game, but one that bears no improvement.

There are surface improvements in sound but little else has been modified, the walls are samey and the speed of play and illusion of movement is no faster. However, as *Eliminator* is fast enough already, the literally non-stop action keeps tension and demands high.

**AMIGA: OVERALL 84%**

**ATARI ST: TGM011 92%**

VERSION UPDATE

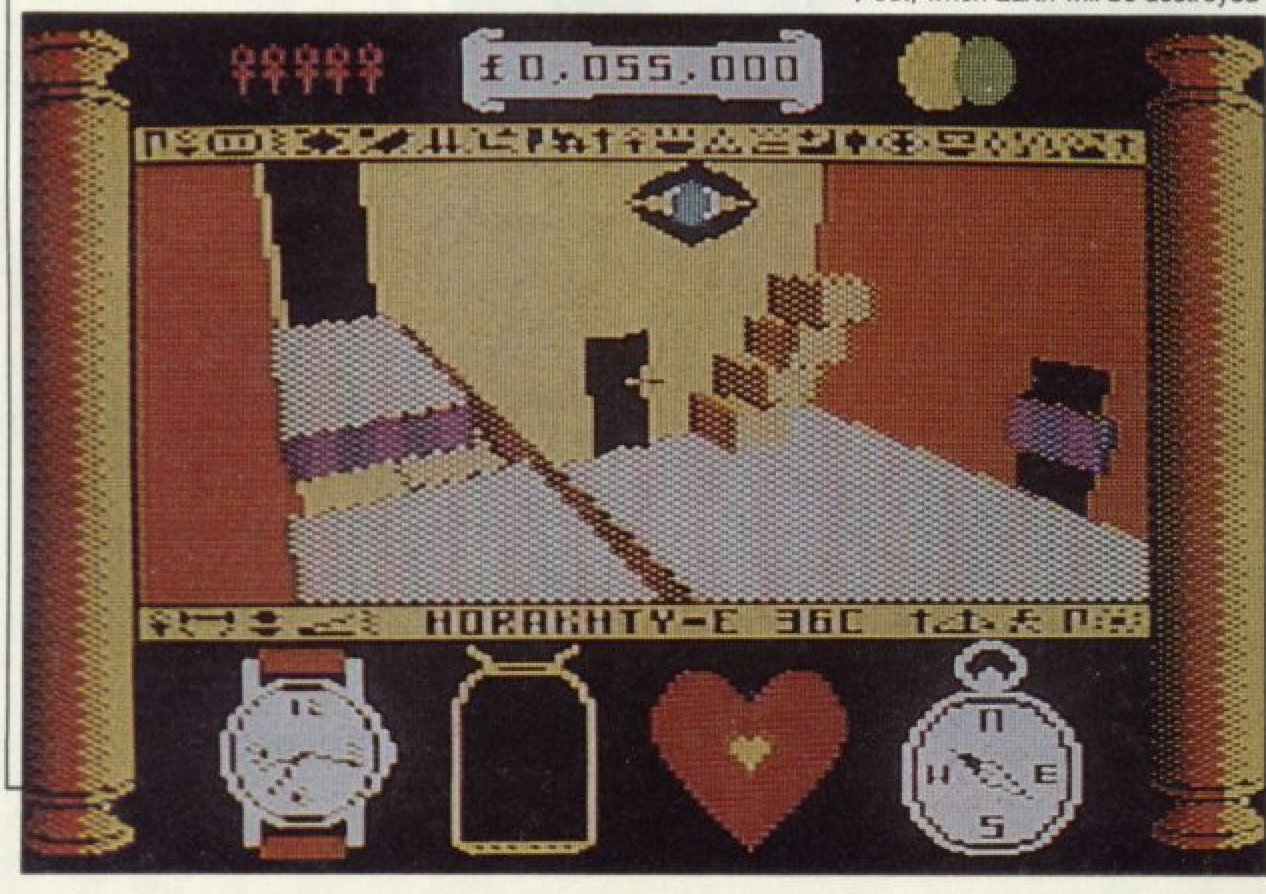
# Freescapism

## TOTAL ECLIPSE
**Incentive**

**Commodore 64/128: Cassette £9.95, Diskette £12.95**

**ALTHOUGH** following the Freescape format of *Driller* and *Dark Side*, *Total Eclipse* breaks away slightly from its predecessors: It is set in the claustrophobic world of an Egyptian pyramid during the adventurous 1930's.

Your quest is to reach the top of the pyramid and destroy a shrine before a two hour time limit runs out, when Earth will be destroyed by an ancient curse.




Graphically, *Total Eclipse*'s relies on steadfast solid colours and shapes to depict pyramid objects, walls and glyphs. Using a palette similar to the Amstrad game, a nice Egyptianesque atmosphere is created which is enhanced by a suitable soundtrack.

Although the claimed 15% speed increase is hardly noticeable, *Total Eclipse* is much less of a trial of patience than previous Freescape games. The sedate speed of exploration, with roughly a one-second time delay for each movement made, is very acceptable for the type of game it is.

Puzzles provide fresh meat for veterans, novices too should find it a good introduction – the going is relatively easy to begin with and gradually builds up to some brain-bending puzzles.

Compulsive exploration and puzzle solving to really get the old grey matter working over-time.

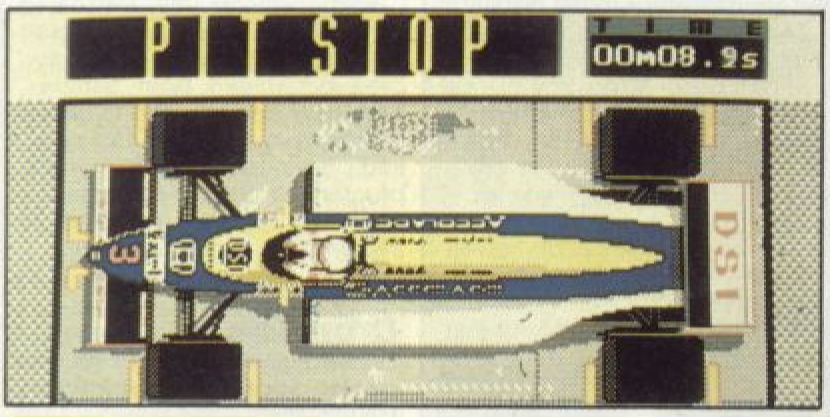
**COMMODORE 64/128: OVERALL 84%**

**AMSTRAD: TGM014 92%**

**SPECTRUM: TGM014 91%**

*←Pyramid power – Incentive bring you 3-D puzzles and a two hour time limit in which to save the world*

# PC PRIX




## GRAND PRIX CIRCUIT
**Accolade/Electronic Arts**

Ditching the high performance super-cars of *Test Drive*, Accolade turn to the world of Nigel Mansell, James Hunt and Niki Lauda for *Grand Prix Circuit*. Following in the slipstream of *Ferrari Formula One* can Accolade again claim Pole Position?

As in *Test Drive*, a number of cars are to hand for the races set around eight international circuits. Potentially the fastest machine, a Ferrari, has been allocated a good-for-a-beginner tag – a lot easier to control than the Honda or McLaren.

Each car has its own performance statistics which, combined with five skill levels, gives you flexibility in your racing style. On the lowest skill level, you race with hardly any controls to worry about – just go flat out and keep your car on the track. Higher levels require skill to keep from spinning, not blow your engine, avoid other racers and change gear manually.

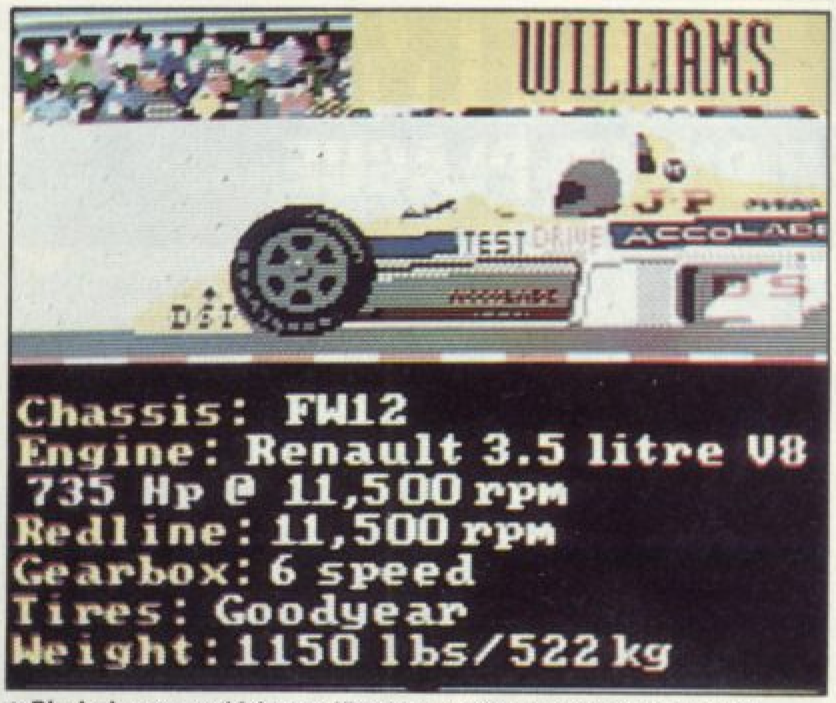
Pit stops are available – although don't expect anything more than a tyre change while you're in there wasting precious time.

*Grand Prix Circuit* features a load/save position facility and the option to save your fastest times to disk.

### Long circuit

You may also choose to enter single races or practise your skills before perhaps taking part in the ultimate challenge of the Championship Circuit – you vs the best of the season.

Rather than go the way of *Ferrari Formula One*, Accolade have opted to strike middle ground by concentrating on the race and its immediate problems. Although there are simulation overtones, the game is of a generally simple nature and lacks depth. However, *Grand Prix Circuit* remains true to the spirit of high speed Formula One racing, although you may have to look elsewhere if you want a bit more game with your action. Nice advert though.




*Displaying your vehicle specifications – not that you've got a choice!*




*Going round the bend – and there's a corner coming up*




*There's no vroom to overtake yet, just bide your time and drive skillfully – that's the formula*

**PC**
**£24.95**

**PC games have tended to shy away from fast action, entrenching themselves firmly in the simulation side of gameplay.** Grand Prix Circuit **is a pleasant change with its racing theme nicely wrapped up in fast screen-updates and good use of EGA mode.**

**OVERALL 64%**

**OTHER FORMATS**

***Grand Prix Circuit* is set to roar onto the C64 (Cassette £9.95, Diskette £14.95).**

**"Remains true to the spirit of high speed Formula One racing"**

PRESS ANY KEY

# HAMMING IT UP

## PIONEER PLAGUE
**Mandarin Software**

One of the Amiga's famed graphic capabilities is to display its full palette of 4096 colours simultaneously, using HAM mode – Hold And Modify. *Pioneer Plague* utilises this and is reputed to be the first computer game to display such colourful graphics – on static screens (the restriction with HAM).

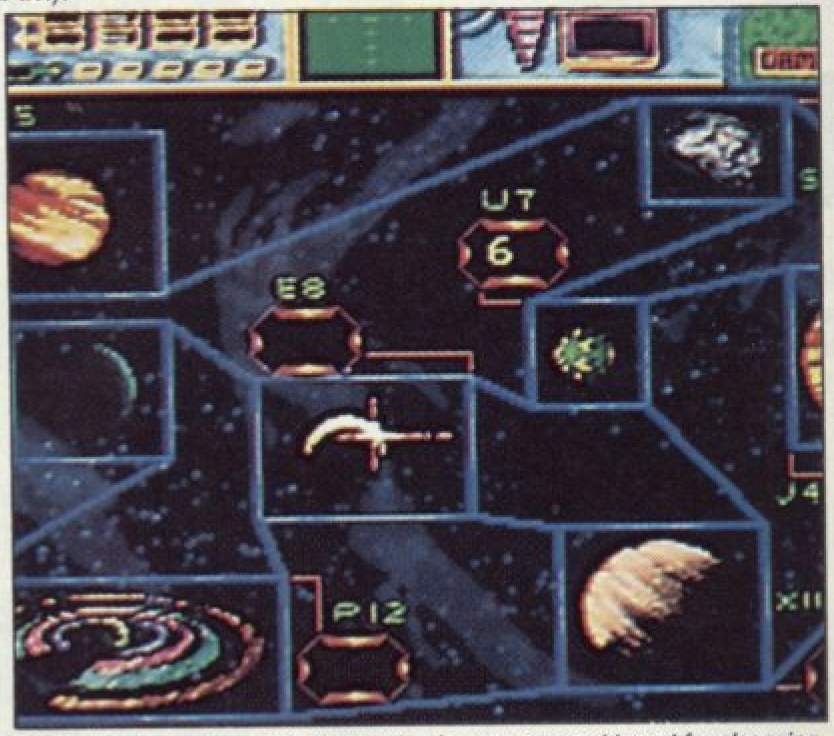
*Pioneer Plague* predicts a bleak future, with your planet overpopulated and frantically searching for living space to stretch its countless limbs. The answer was supposedly found in the shape of pioneer probe Mark IV, devices which bred as they went about the galaxy re-creating planets. They did this happily for a while, forming habitable worlds complete with homes, offices and shops.

Unfortunately, as the sophisticated machines multiplied, so did a minor bug in the original pioneers, mutating them into rogue probes. At first, they only created grim concrete jungles, but recently, they've been ignoring the state of the planets they find, disregarding the inhabitants of worlds in favour of relentless grey landscaping. Naturally, they must be stopped.

Play begins in the control room of your mother ship, LifeStar, with four monitors in front of you. There are three important instruments at the top of the screen: Shield and fuel gauges, and a threat display.

The latter is used when you enter a planets atmosphere, via the first monitor, to destroy probes before they escape. On the radar-like device, LifeStar is shown flashing, and your assault craft, AirShip, in white. Sky hatches – launch pads for probes – are shown either as black dots, or red if a probe is already in the process of launching.

When above a hatch, AirShip can destroy it with a flame-thrower, or fire on probe defence craft, which patrol the skies of the multi-direction scrolling cities.




*The infested galaxy waits for you to choose your next target for cleansing*

Emplacements are eliminated by AirShip's drones, small craft capable of following one of five pre-programmed flight patterns. They may also be used to gather energy from cities. You have two and, using your third monitor, programme their movement for later use. Patterns are saved to disk with the fourth monitor.

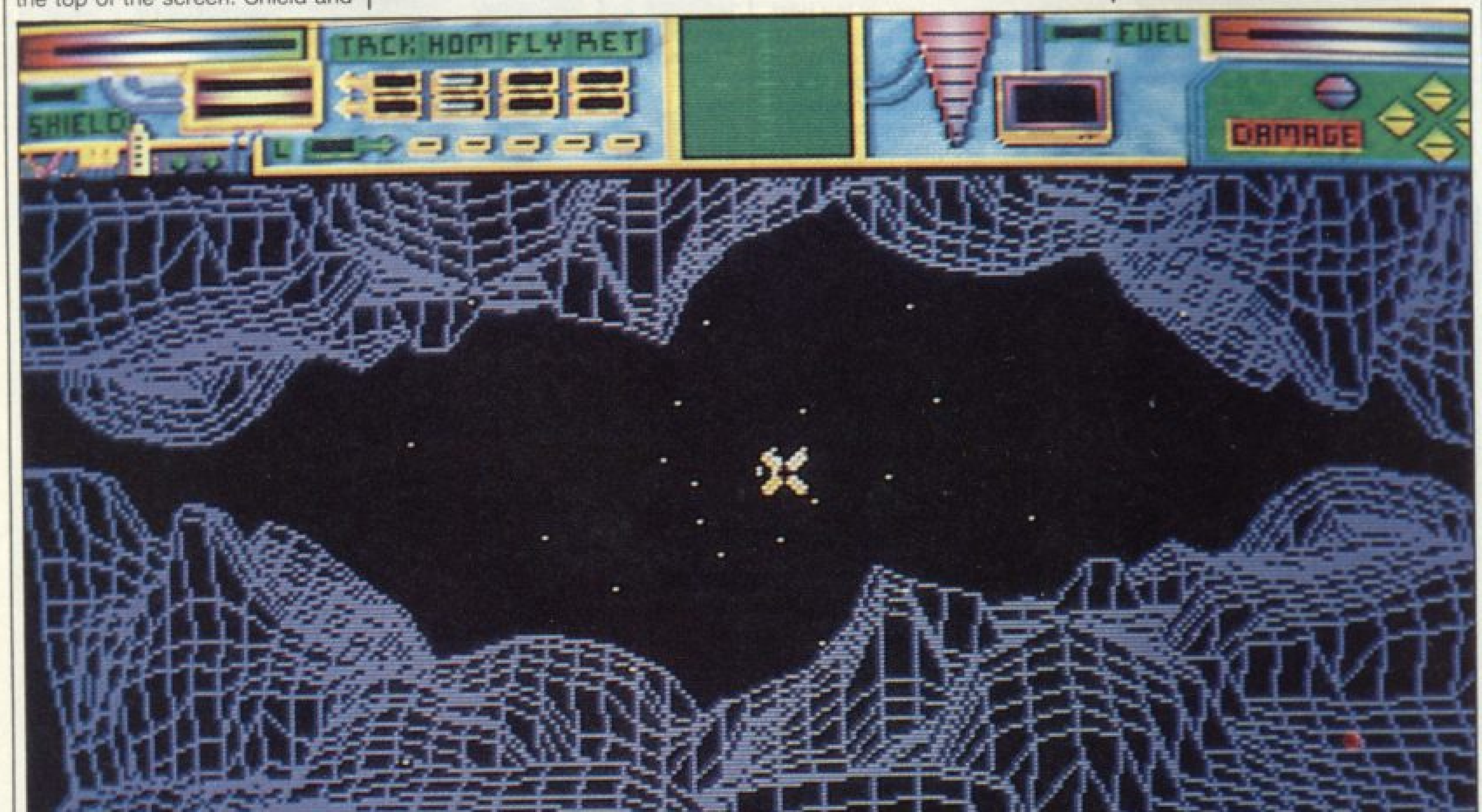
### Drone on

Clicking on the second monitor displays your home-system chart. Here, planets with flashing numerals next to them indicate that they are infected with the plague, and display the number of sky hatches still active.

To move to another planet (the one you are in orbit around flashes), you use sub-Euclidian space, shown in wire-frame as you speed along. Probes release tractor missiles into the zone, which, on contact, have the affect of reversing your direction for a period, they are shot with a prion beam. To get out of sub-Euclidian space, a gravity well – a wire-frame planet – is shot.

If your transit computer is damaged, the collapsar sequence uses wormhole charts and sub-Euclidian plane transparencies (included in the packaging) for manual control.

Though the basis of *Pioneer Plague* is the well-worn plan-view shoot-'em-up, the novel additional features (and non-clichéd

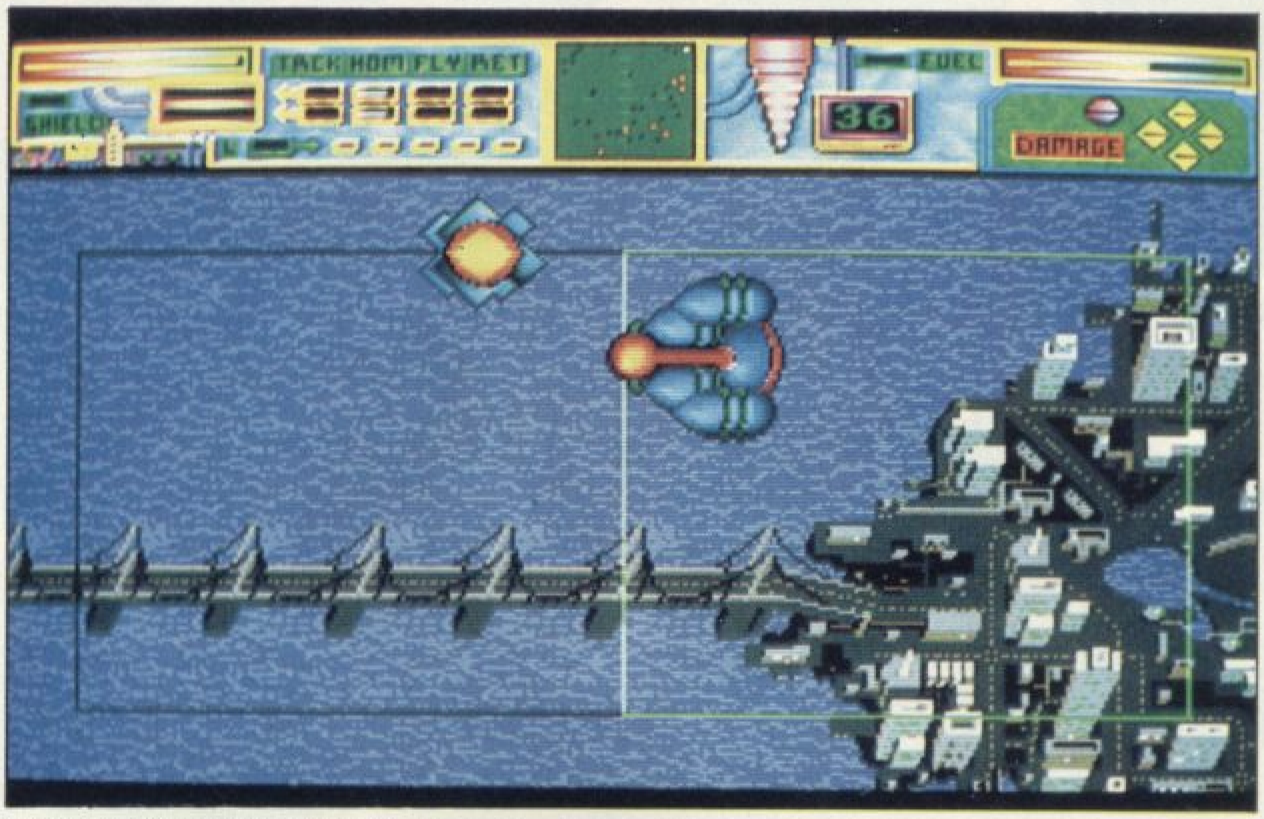



*Tackling the direction-reversing mines in sub-Euclidian space*

**AMIGA**
**£24.95**

**HAM pictures displayed while approaching a planet or after cleansing one are generally very pretty, although there are some blurred coloured borders between contrasting edges, and some ill-proportion. Colour is over-used on the gaudy status panel, but in contrast the cities are dull, to suit the grim landscapes created by probes. The only fault is the intermittent scrolling, which only comes into effect when AirShip reaches the screen edge. Aurally, there is an ominous but simple main theme and a soothing tune for drone programming, and suitably wild sound effects with weird synthoid speech. There's more meat to this game than just HAM.**

**OVERALL 79%**




scenario) expand the game into something notably more. That is not to take anything away from the shoot-'em-up, as speeding above a city, keeping an eye on the threat display and launching drones, is a highly enjoyable one, despite fierce enemy fighters.

Being able to program the flight path of the drones gives a sense of control, and the ability to save their patterns effectively means you can customise the game. Sub-Euclidian space is an interesting design and the collapsar sequence makes interesting (and often frantic) use of packaging, which also includes cynical Douglas Adams-style instructions.

An interesting and exciting shoot-'em-up, with a little strategy – worthy of attention.

**OTHER FORMATS**

**While Hold And Modify is unique to the Amiga, a fairly colourful ST version is a future prospect.**

**"There's more meat to this game than just HAM"**

VERSION UPDATE

## NETHERWORLD
**Hewson**

**Spectrum 48/128: Cassette £7.99**
**Amstrad CPC: Cassette £9.99, Diskette: £14.99**

**TRAPPED** between equal forces of good and evil, your aim is to escape the mystical Netherworld in your wheel-like craft. To buy your way out, you collect diamonds which lie around 12 scrolling levels.

It's not easy, though, as each level features a time limit and many enemies to contend with. The most prevalent form is acid bubbles, which are shot to release icons. These can, amongst other things, increase speed, give bonus points, temporary invulnerability or an extra life. Occasionally diamonds must be created to fill the required quota by using a diamond squeezer or metamorphosis wall.

The Spectrum uses subtle shading to recreate the atmosphere of the C64 original, and objects are arranged carefully to minimise colour clash. Ones eye is distracted by rapid flickering of sprites, particularly on the otherwise impressively animated spinning ship – this proves irritating, especially on the Amstrad.
This is a pity, as the graphics are very colourful and out-shine the C64 on some levels. The doom-laden music is excellent on the Amstrad, but drones on in parts on the Spectrum. There are some interesting effects, in both versions, amongst the standard blasting fair.

These are the most user-friendly versions of those so-far released – levels five and nine can be played without having reached them legitimately, allowing you to see the more difficult of the games fast arcade puzzle levels.

**SPECTRUM 48/128:**

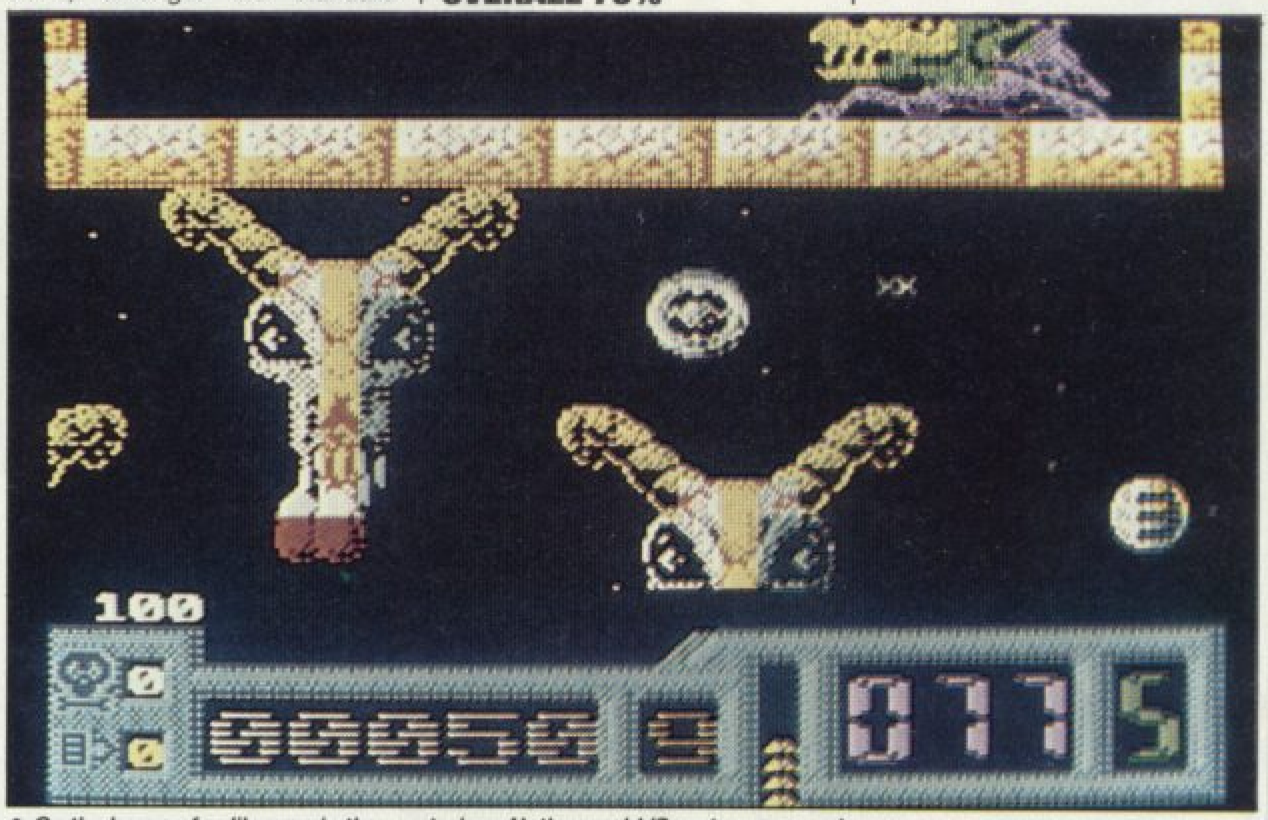
**OVERALL 76%**

**AMSTRAD CPC: OVERALL 71%**

**COMMODORE 64/128: TGM010 78%**

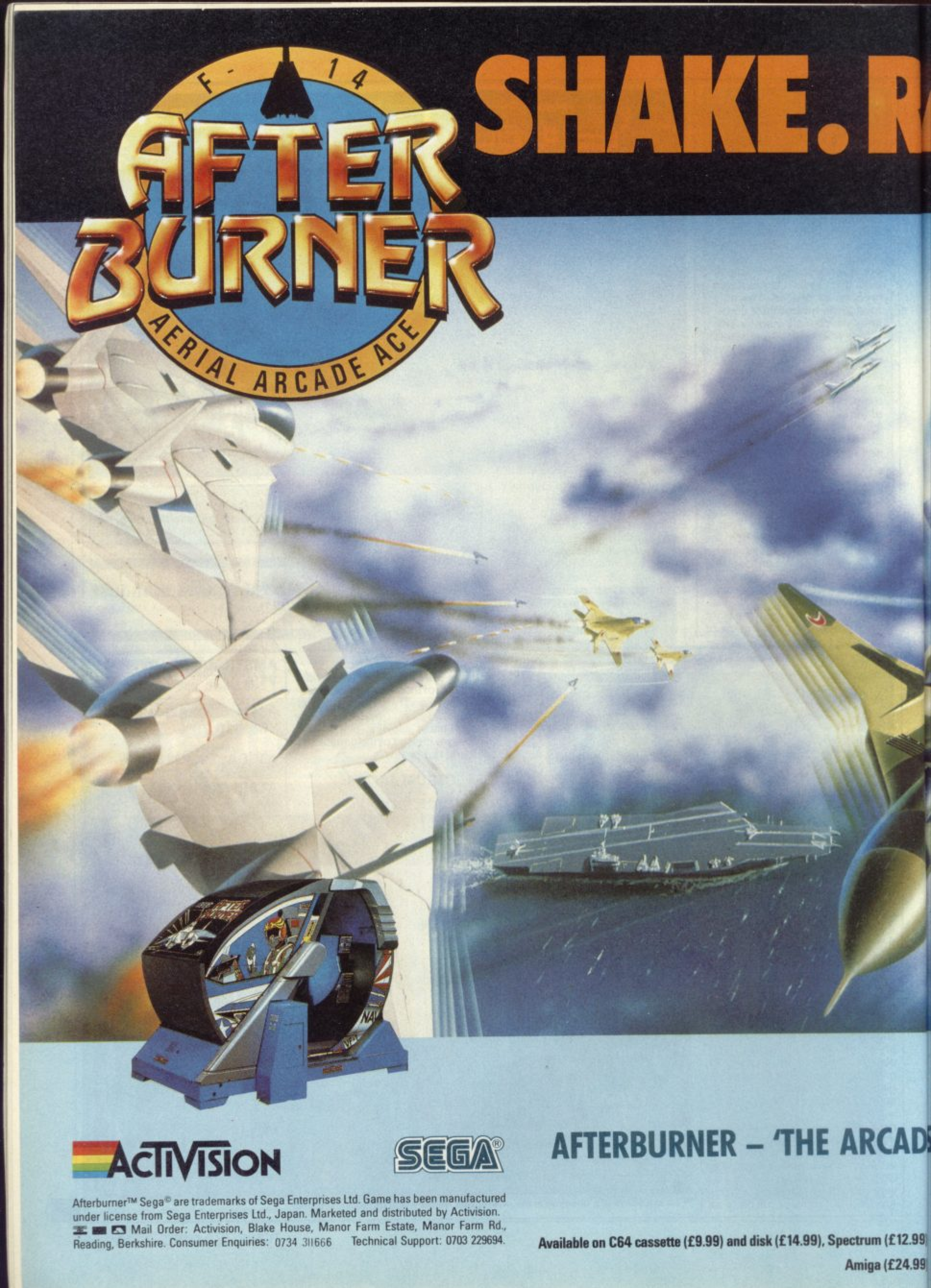
**AMIGA: TGM013 75%**

**ATARI ST: TGM013 74%**




*On the horns of a dilemma in the mysterious Netherworld (Spectrum screen)*

PRESS ANY KEY


SHAKE. R
F-14
AFTER BURNER
AERIAL ARCADE ACE
AFTERBURNER – 'THE ARCAD
ACTIVISION
SEGA®
Afterburner™ Sega© are trademarks of Sega Enterprises Ltd. Game has been manufactured under license from Sega Enterprises Ltd., Japan. Marketed and distributed by Activision.
Mail Order: Activision, Blake House, Manor Farm Estate, Manor Farm Rd., Reading, Berkshire. Consumer Enquiries: 0734 311666 Technical Support: 0703 229694.
Available on C64 cassette (£9.99) and disk (£14.99), Spectrum (£12.99
Amiga (£24.99

# RATTLE. ROLL IT...





Amiga screen shots shown



ST screen shots shown

## SENSATION OF THE YEAR'

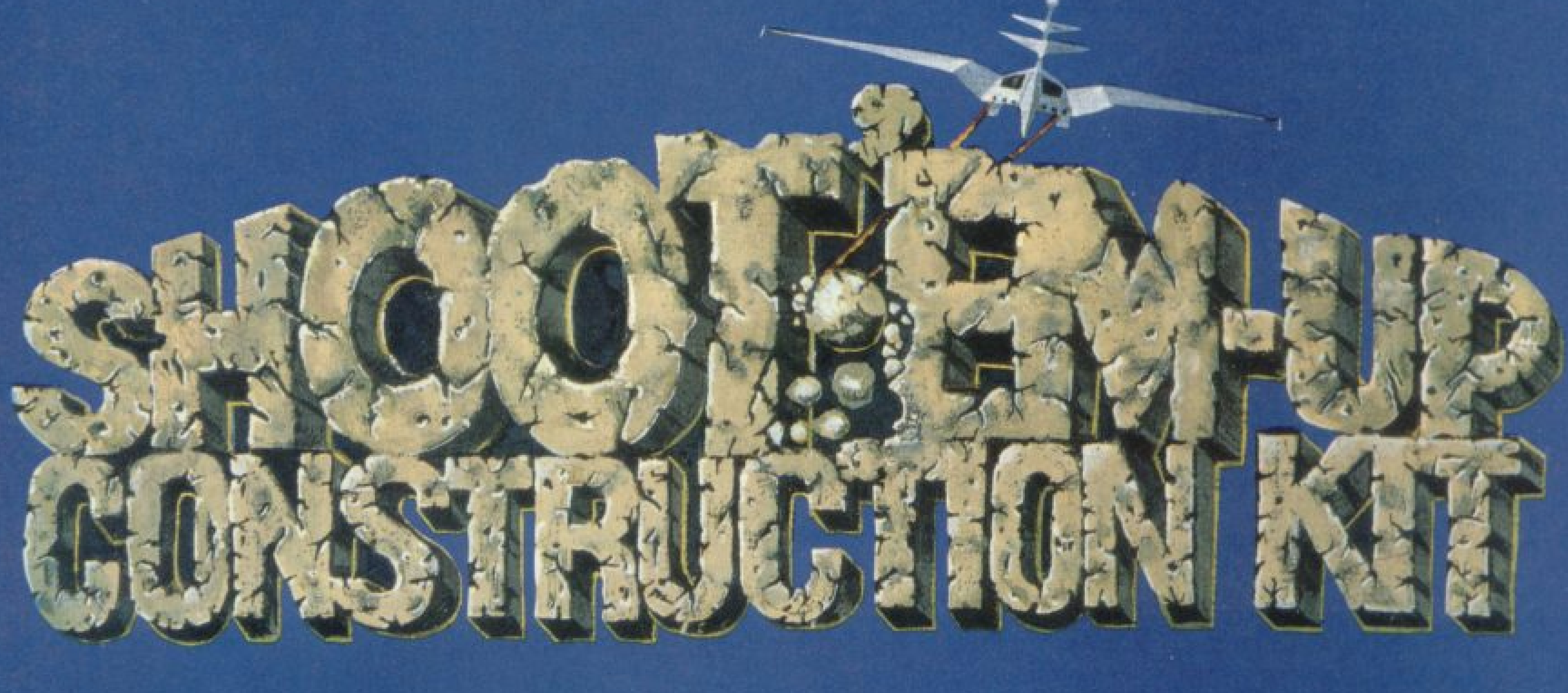
9), Amstrad cassette (£9.99) and disk (£14.99), Atari ST (£24.99),

9) and MSX (£9.99).

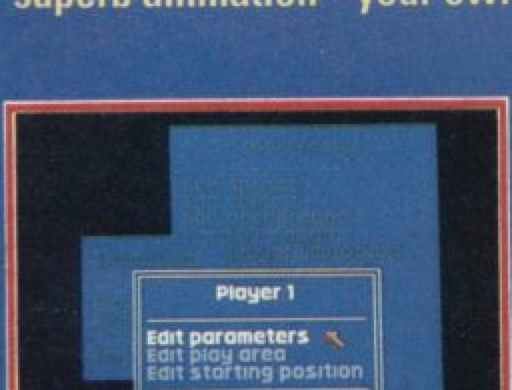
**AFTERBURNER** – You've played the arcade **smash** – now **experience** the white-knuckled **realism** of a supersonic **dogfight** at home! Using your heat-seeking **missiles** and laser anti-aircraft **fire**, can you be **top gun** against a seething supersonic **swarm**?

**Experience** brain-numbing **G-forces**; bones **rattling** with the body-jarring **pitch** and yaw . . . **scan** with your **radar**, **lock on** your target and **FIRE!**

# THE MOST POWERFUL GAME DESIGNER NOW AVAILABLE FOR THE MOST POWERFUL HOME COMPUTERS!




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Already a massive success on the Commodore 64, Shoot 'em up Construction Kit has been hailed by ZZap!64 as "one of the greatest packages ever released on the 64". Now a team of top programmers, between them responsible for a string of hits including Wizball and Barbarian, have brought their skills and experience together to produce the ultimate user-friendly 16 Bit game designer.

AMIGA – £24.99 ATARI ST – £24.99
COMMODORE 64 Cassette – £14.99 COMMODORE 64 Disk – £19.99

OUTLAW

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PALACE SOFTWARE

Please check for availability of individual formats

# TO HELL AND BAAL

## BAAL
**Psyclapse**

**N**ostradamus, sages and pessimists have all tried to predict when, and how, the world would cease to exist. Many have pinpointed 1999 as the year of Mankind's judgement, and with the coming of BAAL they could be right . . .

On June 6 1999, a group of archaeologists uncovered an ancient doorway which, when mistakenly opened, released a creature from Man's darkest dreams – BAAL.

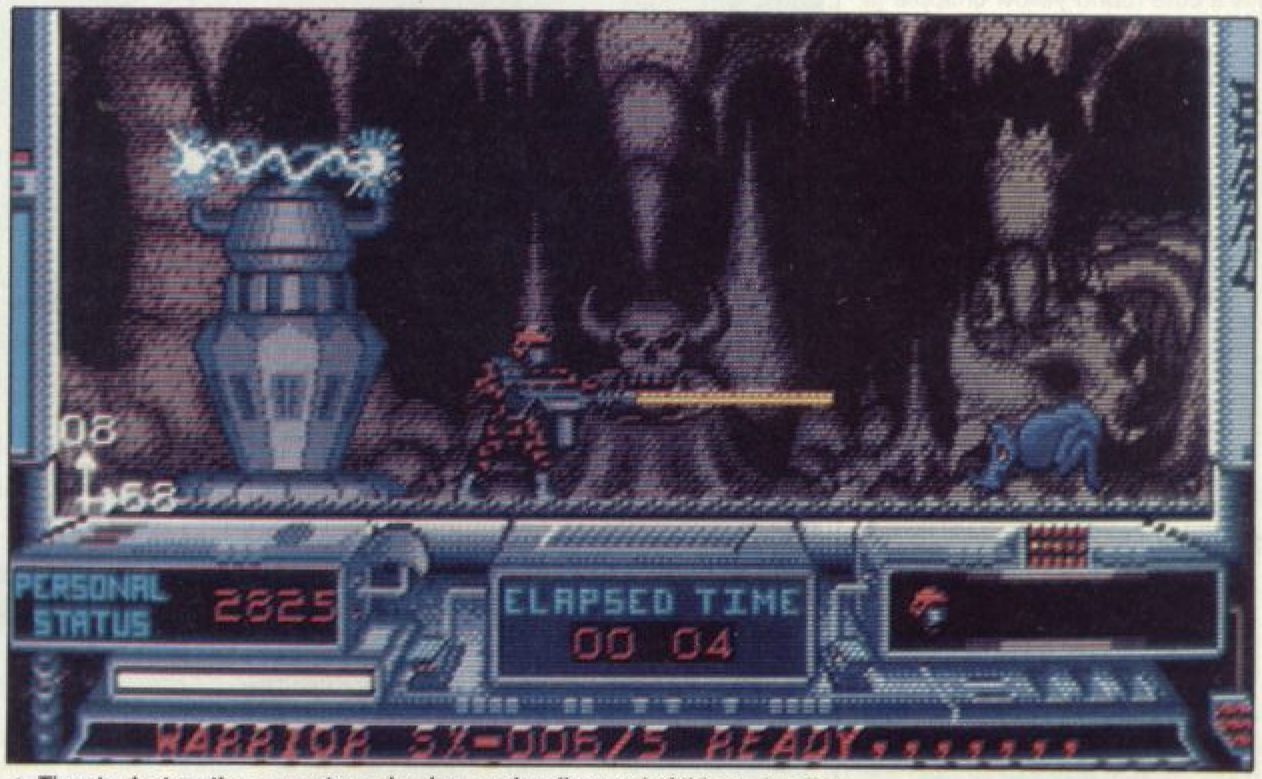
In his wake, BAAL's minions stormed the planet and stole the ultimate war machine – with it, BAAL can rule Man and imprison him in eternal slavery.

In desperation, Mankind set up a war council and devise a counter-attack to recover the machine (now in bits and scattered throughout BAAL's domain) and kill BAAL. A force known as time warriors is formed, and the battle begins.

Entering the caverns of BAAL, the six warriors (controlled one at a time) are confronted by an *Obliterator*-style presentation – the major difference is a scrolling play area.

BAAL's kingdom is made up of three domains, he is to be confronted in the final region. To move to a new region you have to find a defined number war machine components. A transporter takes you further into the dank depths.

Each domain is made up of a system of platforms, ladders and ledges around which you run. And with more than 250 screens to explore and map, this is not going to be a quick game.




*Time to destroy the generator only when you've disposed of this pesky alien*

### Generator game

The simple nature of gameplay is offset by the size of each location, the ferocity of aliens met and the low number of warriors you are designated. Thankfully a further warrior is recruited on entering a new domain and for every 5000 points scored.

Machine components aren't left carelessly lying around. BAAL has placed them the wrong side of forcefields, across chasms and behind aliens. Forcefields are brought down by shooting their generators, but to get round most hazards you jump them, *Impossible Mission* style. Watch out for mines too.

Your time warrior carries a lethal laser with expansion slots for four types of cartridge. Finding cartridges is difficult, but you should persevere as they're a necessity.

For getting to new areas of each region, a rocket pack is available – as long as you have sufficient fuel. If you don't find a suitable landing place before your fuel runs out, you lose a warrior.

As in *Obliterator*, *BAAL* has a save game function in the form of a refuelling point where energy levels can be topped up. The save position feature is vital, mistakes are easy to make, progression has to be thought out (especially when using the rocket pack) and the aliens show no mercy. A tough game, but great to play again and again.

**ATARI ST**
**£19.95**

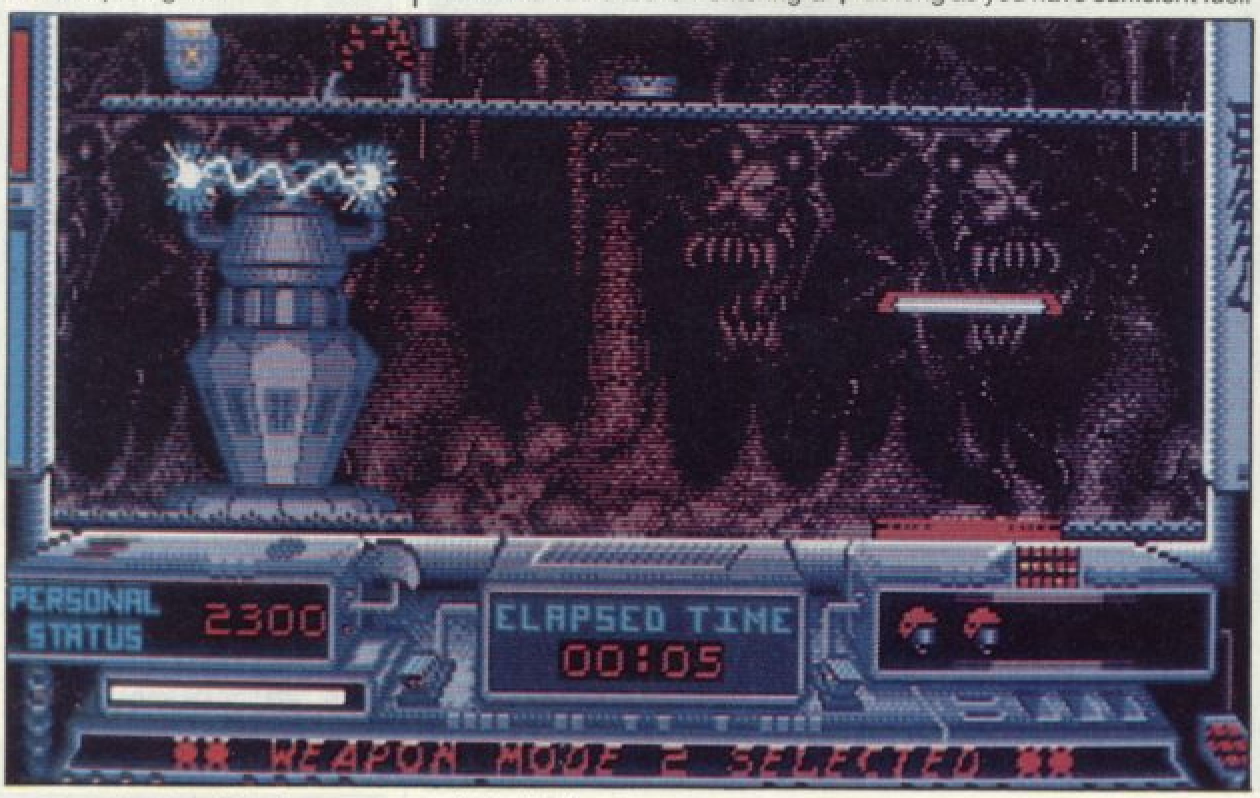
**With the removal of the Psygnosis traits of jerky animation and flip screen action, comes a super-smooth scrolling, fast-moving arcade adventure. Presentation is very slick and the atmosphere created masks what is relatively simple gameplay.**

**OVERALL 81%**

**OTHER FORMATS**

**An Amiga version with improved music should be out by the time you read this (£19.95). 8-bit conversions are being planned.**

**"The simple nature of gameplay is offset by the size of each location and the ferocity of aliens met"**




*Displaying the might of your weapon, what a pity there's nothing in range*

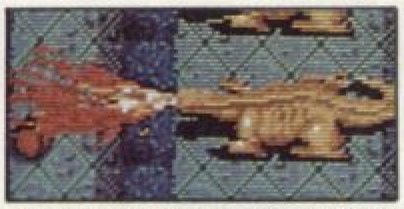
# PUFFY'S SAGA

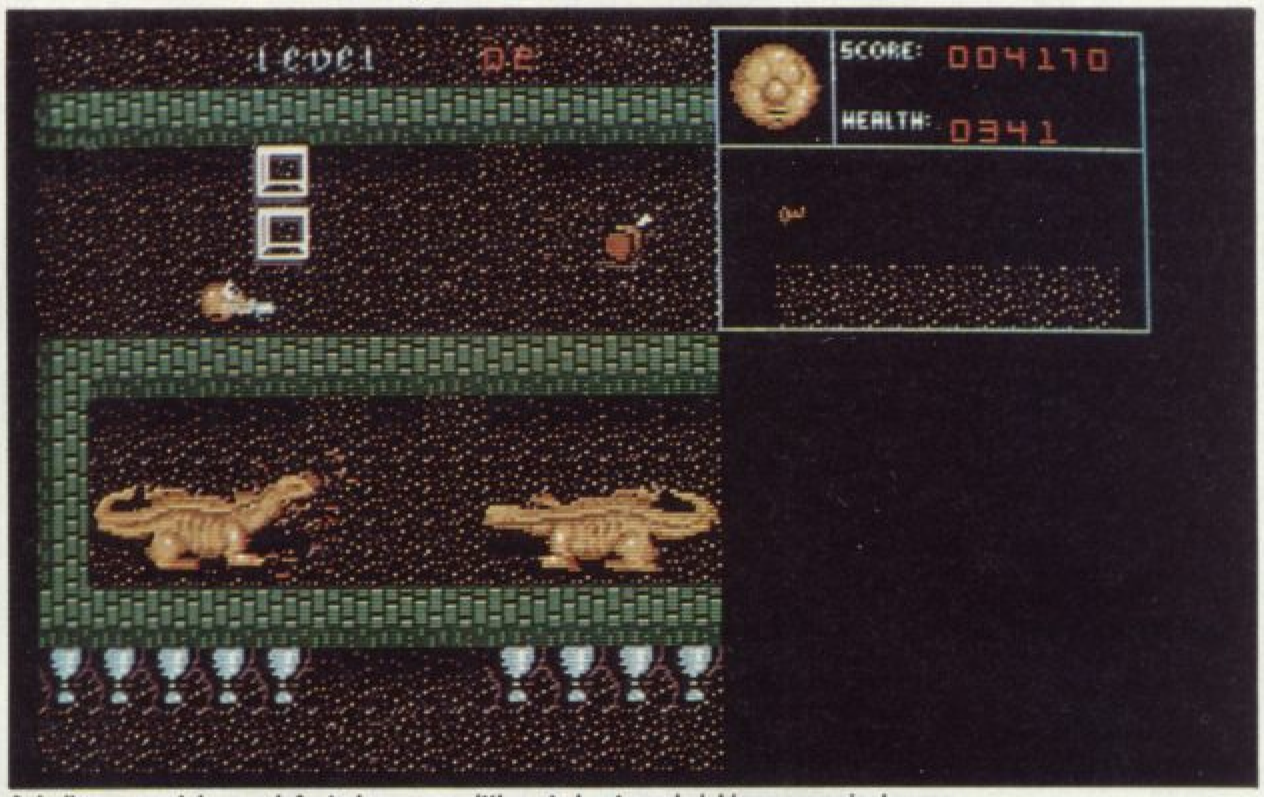
**Ubi Soft**

That Ubi Soft are a French company may go some way to explaining the unusual title of this (unusual) game, due to either language and culture differences or their naughty, risqué nature. Or perhaps it's just down to the author, Claude Sablatou.

Puffy, you may be relieved to find, is a cute round yellow chappie (a familiar description) with a big problem on his hands (if he had hands!). His beloved girlfriend, Pufyn, has been captured and is lost in an alien world. Setting out to rescue her, Puffy himself becomes lost. His only means of escape is to collect clues to lead him to through the maze-like levels, whilst avoided traps and monsters. This is a non-sexist program as you can choose to control the long-lashed, but equally rotund Pufyn as she tries to find Puffy.

Each level is displayed as a four-way scrolling near-plan view maze, *Gauntlet* style. Your main objective is to collect small spheres that give access to the next level, a task hindered by limited energy. You begin with 500 life-points which gradually decrease with time but take a sizeable dent if you collide with a monster: Ghosts, insects, eyes, dinosaurs, or worst of all, acid puddles. Also detrimental to progress are stun tiles and sparks.






*Lollop around dragon-infested mazes, spitting at ghosts and picking up magical goms*

## Saliva survivor

Luckily, there are ways to redress the balance: Energy is gained by collecting food and some enemies are killed by repeatedly spitting at them. Special objects give advantageous properties such as extra speed, fire power, super shots and invisibility. All these are effective for a limited time only.

Additional features are activated by collecting magic goms. These pale blue spheres are collected and traded for items such as maps, fire power, life-points or extra speed.

Other objects available are keys that open gates or chests, and trigger tiles that allow entry to previously inaccessible areas.

From a few seconds play, *Puffy's Saga* is recognised for what is – a *Gauntlet* variant with humourous characters. It loses out on the added dimension of multiplayer action, and on some levels imitates *Pac-Man* with its tight mazes and swarming ghosts.

Humour is added by the friendly bouncing main character and silly speech, and adds interest to an old-fashioned (and difficult) game. A practise option starts you at level seven with 2000 life-points, but even then you don't last long. A source of some amusement, but only an average game.




*"Puffy, no run, extra speeeed!" – and similar silly speech abounds in* Puffy's Saga

**ATARI ST**
**£19.99**

**Mazes are simply defined and scroll in large steps, creating a distraction to the eye. Some sprites are nicely defined but all are unambitious in animation. The samples are clear, unusual and amusing – 'Puffy, you vill die!' ét al – but they can become irritating to some ears.**

**OVERALL 62%**

**OTHER FORMATS**

**Amiga (£19.99), C64 (Cassette £9.99, Diskette £14.99), Spectrum (Cassette £8.99), PC (£19.99) and Amstrad (Cassette £8.99, Diskette £14.99) are set for a January/early February release.**

**"Recognised for what is – a** Gauntlet **variant with humourous characters"**

# THANK YOU FOR YOUR COIN-OPERATION

## ROBOCOP
**Ocean**

**N**ear-future America: crime is rapidly becoming the biggest profession. To combat this undesirable situation and bring law and order to Old Detroit, the privately-owned police department turn to high-tech manufacturers for a solution.

The first idea, a bi-limbed patrol droid named ED-209, goes wrong, with fatal results. A second project is put into effect for which a body is required to support a titanium robot shell.

Cop-on-the-beat Murphy, is gunned down by bank robbers and it is his body that becomes the experimental model for the robotic machine. The result is part man, part machine, all cop – RoboCop, who sets out to clean up Old Detroit to make way for new development.

Criminals are everywhere. Guntoting punks appear at windows, martial arts experts kung-fu the lawman and chainsaw warriors try to turn him to scrap metal. As RoboCop clanks his way through levels, energy (in the form of baby food?), extra ammunition and other weapons are made available.

Once the street has been cleared, RoboCop moves on to a first-person 3-D combat scene where a criminal holds a woman hostage. Use your gun cross hairs to line up the punk and let him have it. Not only is time of the essence but Murphy's energy level drains away each time the hostage is hit (as does hers!).

The action switches to another street, where RoboCop takes on all comers, including a gang of Hell's Angels. Much carnage ensues until the futuristic Harry Callahan reaches a garage where Emil, one of Murphy's murderers, is spotted. At this point the human memories of the future cop emerge and he sets out to hunt down those that left him for dead.

### Show no Murphy

In pursuit of the gang, Murphy uses the Detroit police computer to match up Emil's face. The sequence takes the form of an identikit, as RoboCop tries to reconstruct the face of Emil. Played against a tight time limit, it is made all the more difficult by the minor differences that seperate face parts available for choice.

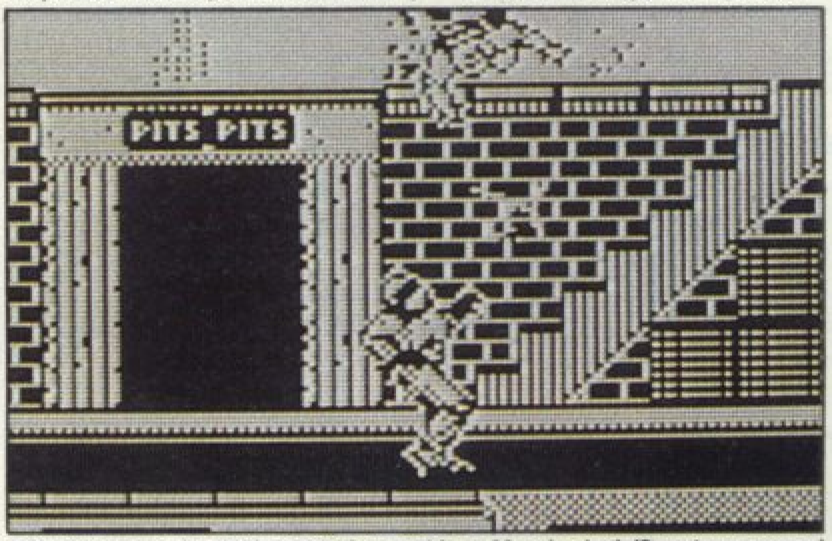
Based on data gained by matching Emil's face, RoboCop moves to a drugs factory to arrest the gang and continues by going to the OmniConsumer Products (OCP) building to arrest the high-ranking executive behind the gang of bank robberies – and meet a deadly opponent.

The final battle reverts to a 3-D combat section, this time RoboCop faces the corrupt executive who is holding the OCP president hostage.

*RoboCop* follows the movie plot closely, recreating its key points. Violence is paramount, and *RoboCop* goes overboard in providing it.

Gameplay and ideas behind *RoboCop* are well used, but what makes it a winner is the way it expertly utilises the straightforward, simple carnage of shoot-'em-up action. This is interspersed with equally playable sub-games such as the 3-D sections.

Other than its familiar game style, there's very little to find fault with *RoboCop*. Constant attacks by the generally unhealthy criminal fraternity keep demands and interest high.




*Striking a mechanical pose before making a Murphy dash (Spectrum screen)*

**SPECTRUM 48/128**
**Cassette: £8.95**
**Diskette: £14.95**

**A lack of colour doesn't bring down what must be the best film tie-in yet. Animation is as good as you could possibly get and accompanying crisp speech and soothing title tune (128K only) add quality to highly addictive gameplay. Multi-load presents itself on the 48K Spectrum but is easily endured.**

**OVERALL 81%**

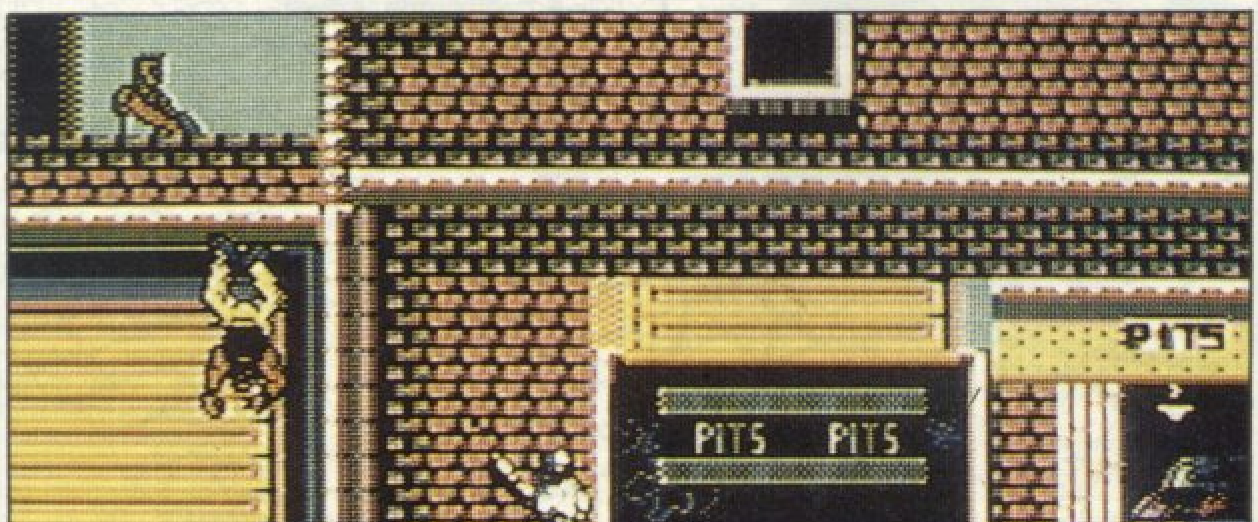
**COMMODORE 64/128**
**Cassette: £9.95**
**Diskette: £14.95**

**With only a solitary life to play with and continuous criminal attacks,** RoboCop **is one vicious game. Although in places a little gaudy in its use of colour, RoboCop is excellent, sporting a metallic-look befitting the film. Negatively, the 3-D shooting sequences are a let-down, after the high-tech cross hair style of the Spectrum game, and sound effects and in-game tunes are weak.**

**OVERALL 77%**

**OTHER FORMATS**

**Enforcing future law will soon be possible on the Amstrad (Cassette £9.95, Diskette £14.95), Atari ST (£19.95) and Amiga (£24.95).**




*Murphy causing pain by shooting criminals through windows – 'I was framed' (C64 screen)*

**"Expertly utilises the straightforward, simple carnage of shoot-'em-up action"**

VERSION UPDATE

## CRAZY CARS
**Titus**

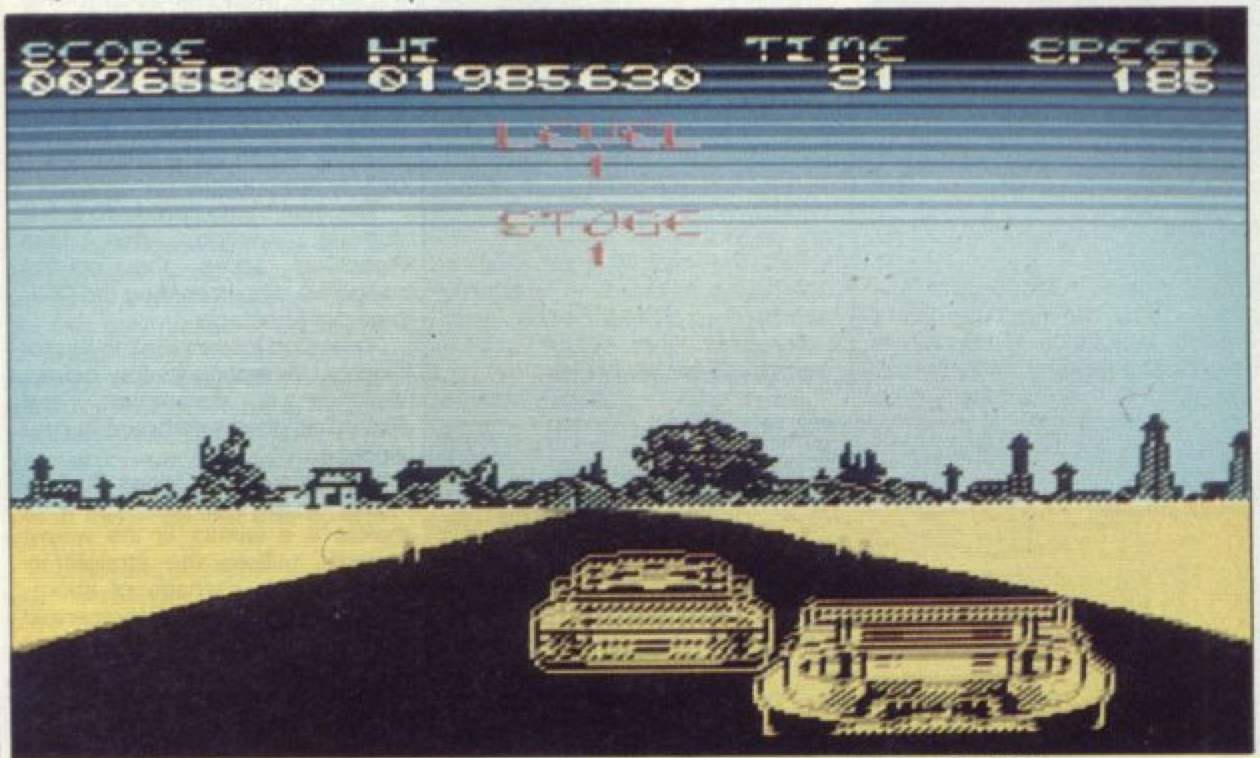
**MSX I/II: Cartridge £24.95**



*Leaping Lambourghinis, when are they going to resurface this road?*

**A QUARTET** of high performance cars are yours for the driving in *Crazy Cars*, although you'll need to drive hard if you want to upgrade to the likes of a Ferrari.

Incorporating strange logic, you begin in one of the most powerful cars of all, a Lambourghini, racing through each of four tracks that make up one of the four levels. You race against the clock and other cars – who bring yours to a halt should you collide.




*No we haven't got our screen shots mixed up – this really is how Crazy Cars looks on the MSX*

Cartridge-based MSX games have generally been of an excellent standard in terms of presentation – until the arrival of *Crazy Cars*. Ignoring the MSX's potential for colour, the game resorts to monochrome graphics, making it very similar to the Spectrum version.

One nice feature is the smooth effect of roads and hills rolling past – not fully realised however, as there are no off-road graphics to complement it.

*Crazy Cars* looks and sounds no better than a poor Z80 road-racing game.

**MSX I/II: OVERALL 28%**

**AMIGA TGM003 78%**

VERSION UPDATE

# Officer's UMS

## Universal Military Simulator
**Rainbird**

**Amiga: £24.95**

**REPRESENTATION** of battlefields and use of pull down menus remain the same as on the ST – good enough to warrant little change – only the addition of sampled sounds (for Amiga 1000/2000 owners) and a colour-change option reveal which machine it is on.

*Universal Military Simulator* (*UMS*) allows battles throughout time to be re-enacted, and history books changed using 'What if . . . ?' scenarios – these, and the ability to change the structure of battles, are the program's strength.

*UMS* lets you bring armies together from different times in history to fight one another, new armies can be designed (either factual or fictional) and even 3-D landscapes changed for ultimate variety.

*UMS* isn't as complex as SSI wargames and is restricted to ground conflict (naval, air and combined forces warfare aren't catered for). What it does offer is a powerful wargame program with the flexibility of an extensive user-friendly construction kit within a realistic 3D setting – all superbly presented.

**AMIGA: OVERALL 91%**

**PC: TGM005 92%**
**ATARI ST: TGM003 95%**




*Strategically speaking, UMS is one of the best battle simulators available*

# ORGAN FUNDS

## NEUROMANCER
**Electronic Arts**

Followers of TGM's Stuart 'crackers' Wynne's column will be familiar with the grim future predicted by the branch of science fiction known as cyberpunk, and the most respected and famed author of the genre, William Gibson. *Neuromancer*, the book, was featured in TGM**010** and the computer conversion previewed as part of a feature on the programmers, **Interplay**, in the following issue.

Bleary-eyed and stained with spaghetti sauce, you attempt to gather your senses as you awake in the Chatsubo bar: your unwitting destination after the past two day's endless drinking.

The city is Chiba, in the Kanto district of Japan, a place foreign to you but infamous in reputation. Crime is ever-present but subdued, and death is the price for slips of action or manner. People sell body parts, replaced by cheap synthetic replicas, just to have enough money to survive.

Friends and cowboys of the curious data dimension of cyberspace have gone missing, without trace. You have decided that the disturbing rigours of Chiba city are worth bearing for the possible solution to the mystery – somewhere in cyberspace.

Normal databases (Comlinks) are commonplace in 2085, but cyberspace is restricted to mammoth corporations and government organisations, to protect them from hackers. Cyberspace is a 3-D computer world, generated by decks (sophisticated data receivers) so that users can make sense of the pure information as they experience the dimension as if really there. Cyberspace decks are supposedly unavailable to private users but through less-than-scrupulous dealers, cowboys can get hold of the hard- and software.

To solve the mystery of the disappearing people, you must get a deck capable of cyberspace, but to begin with, a deck of any kind is needed.

### A novel idea

Icons place at the bottom of the screen are the key to interaction: They change the mode of a small display (showing amount on your credit chip, the time, date, or constitution health level), list your inventory, display statements to say to other characters, allow movement to other locations and offer load/save/pause and restart.

The city is explored for objects and information so that you can link up, with the correct passwords, to databases and begin your investigations properly. The grid of cyberspace is your ultimate aim, but bases there are defended by Intrusion Countermeasure Electronics, which must be neutralised by icebreaker programs found elsewhere. Some bases have Artificial Intelligence programs as secondary defence, which are even more difficult to bypass.



Your unwitting starting location: the Chatsubo bar, Oohhhh my head




William Gibson, looks out from the title screen

Nothing in life is free, especially in Chiba, so when your bank account runs dry, the only way to fund Comlink and access cyberspace is to sell your body parts, and have them replaced by plastic ones. More cash is given at a Body Shop for vital organs, but synthetics lower your constitution.

With a cyberpunk role-playing 'adventure' from the makers of *The Bard's Tale* series and *Wasteland*, an atmospheric game of great depth was expected from *Neuromancer* – we haven't been disappointed. Using extracts from the novel, text adds feeling and grim humour to graphics and helps get you into a game requiring brainpower, concentration and time.

Hacking and cyberspace are a long way into the game, but *Neuromancer* is worthy of the effort required to get there.

**COMMODORE 64/128**
**Diskette: £14.95**

**The game is introduced by a title screen showing William Gibson 'interfaced' to a computer and backed by a grainily sampled Devo (American synth band) song. Backgrounds are simply drawn with subtle facia, and though sprites are blocky, their faces are defined with character. Movement is mostly restricted to your alter ego's casual walk, but suits the excusably slow play. In-game sound is a few synth acknowledgments and a passable rendition of Devo's** Some Things Never Change. **Disk access is remarkably frequent.**

**OVERALL 81%**

**OTHER FORMATS**

**Comlink 1.0 software should be running on the simulated decks of the PC soon (£24.95).**

**"Text adds feeling and grim humour to graphics"**

# DON'T KNOW THEM FROM ADAMS

## THE MUNSTERS

**Again Again**

This spooky licence, released on Alternative's new full-price label, was reported in TGM**011**, and was met with some interest. The black and white American television comedy series has been a success for almost 20 years, and in Britain has been shown regularly on Channel 4. It concerns a bizarre monstrous family and their adventures amid an ordinary American town.

Head of the household is the clumsy lumbering Herman, a Frankenstein's monster of many parts. His wife is the streak-haired vampirish Lily, daughter of the similarly blood-sucking scientist known as Grandpa. Herman and Lily's off spring is little Eddie, while their niece, Marilyn, is the only ordinary person of the bunch. The family also have a pet, Spot – a huge fire-breathing dragon that lives under the stairs.

Their lives are disrupted by denizens of the underworld. Marilyn is captured by the evil, malicious 'Old Nick' (a way we often describe our reviews editor) – the distraught family naturally plan to rescue her. Their troubles do not end there however, as zombies, ghouls and ghosts invade their mansion and put all but Lily to endless sleep.

You guide Lily through the many rooms of the mansion and out into the grounds, searching for magical items to save the family. Enemies dispatched by spells cast increase your spellpower, but contact with them reduces not only this but your energy level. High levels of spellpower enable you to kill strong enemies who guard useful objects.

### Eddie the kid

Objects are manipulated to bring Herman to life, who you then control to free Grandpa and Eddie. Meeting up with Grandpa at the hearse dragster, Herman automatically drives the vehicle to the Chateau where Marilyn is held – where you then guide the dragon and his fiery breath.

Once at the Chateau, the last evil creatures are fought back until Marilyn is rescued and the family reunited.



Oops, you should have topped up your spell level before going out to the garden (Spectrum screen)

The games designers obviously spent little time looking at the TV series before opting for a walking (and later, flying) shoot-'em-up with minor arcade adventure elements – little in the game, other than its title and music, reminds you of the fun characters. Slim sprites bear only slight resemblance to their screen originals and humour is non-existent, so no atmosphere is generated. The simple gameplay may appeal to some, so if possible, try before you buy.

**SPECTRUM**
**Cassette: £9.99**

**The play area is mostly black and white, in fitting with the programme, but has colour in clash-avoiding areas – and Lily is more elegant as she walks speedily around. Sound is notable in 128K, with a very nice version of the music. Still a tricky game, but more playable than the ST version.**

**OVERALL 65%**

**ATARI ST**
**£19.99**

**Some impressive visual effects introduce the game, which has nicely shaded, detailed backgrounds and sprites. However, even accepting the small number of pixels to work with, the characters' faces are crudely fashioned. Some enemies are horribly vicious, relieving you of your single life or taking a sizeable portion of your energy. The ST's simple sound chip performs a reasonable rendition of the lively TV theme music, and there are a few appropriate effects.**

**OVERALL 57%**

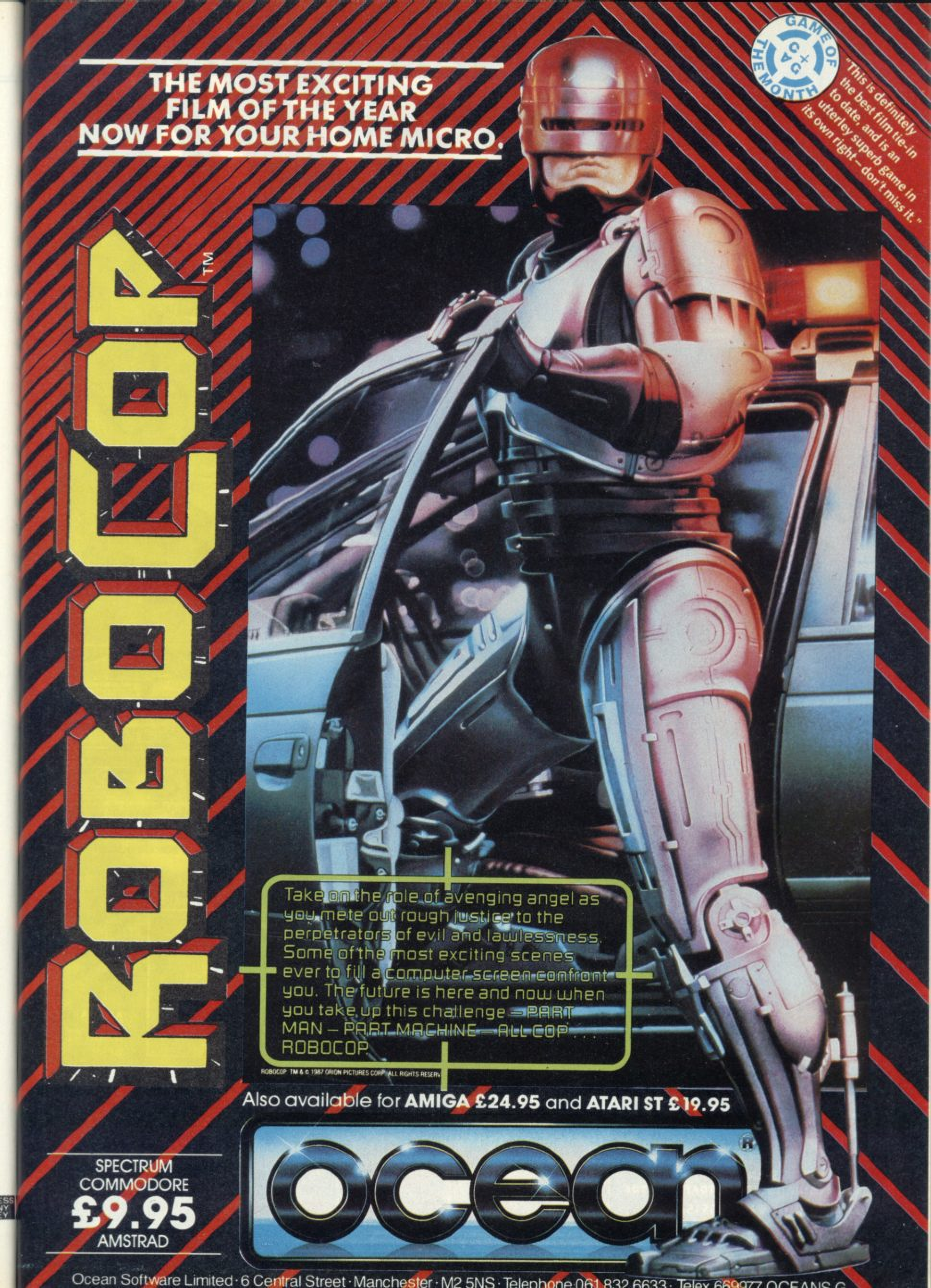



Herman and Grandpa stare at Lily through spell entranced eyes – she must save them! (ST screen)

**OTHER FORMATS**

**The cobwebbed C64, Amstrad CPC, MSX (all Cassette £9.99, Diskette £14.99), and Amiga (£19.99) versions should be on the shelves by the end of January.**

**"Slim sprites bear only slight resemblance to their screen originals"**



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# THIRD BLOOD

## RAMBO III
**Ocean**

Afghanistan, scene of many modern-day battles, is the setting for *Rambo III* – once again Vietnam veteran John Rambo is a man with a mission. This time his mentor, Colonel Trautman, has been captured by Russians and locked up in a mountain fortress. Rambo is impelled to rescue him for honour, the good of his country and a few million dollars more from the box office.

Even Rambo can't shoot up an entire fortress of Russians and live to rescue his Colonel – instead, having you to control his movements, he uses guile and stealth to sneak around and avoid triggering alarms.

The first section features an overhead view of big John moving through the fortress and its surrounding compound, searching for keys, weapons and other items to help in the rescue.

Weapons are either quiet or not – silence is golden, so stick to bow and arrows, knife or pistol with silencer attached, to avoid unnecessary confrontation. If, on the other hand, you want mass destruction, go for the explosive arrows or machine gun and wait for mayhem to ensue.

Rambo has limited energy which is reduced partially by bullet hits, or fully by walking over a mine.

The fortress features doorways, passages and storage rooms to explore. Alarm triggering infra-red beams and electrically charged doors add to the hazard of deadly Russian soldiers. Outside in the compound, minefields and a horde of Reds keep the pressure on.

Somewhere, deep in the fortress, together with Afghan prisoners, is Colonel Trautman. Getting to him automatically frees him and allows Rambo access to the second section.

Rambo is on his own, and in deep trouble. The Russians are hopping mad and out for blood – Rambo's. He heads north, setting and priming bombs en route, before escaping in a stolen Hind helicopter.

### He ain't heavy

The third section features a change in style, as Rambo commandeers a tank and rattles across Afghan plains towards the border and freedom. The Russians are even more incensed and attack without mercy in a sub-game that owes a lot to *Operation Wolf*.

Rambo in a tank should be more than enough for any force to handle, but the Russians don't care, they've got countless soldiers, tanks, grenades, helicopters and mines to stop him reaching the border. Armed with an overheating gun, Rambo has his work cut out.

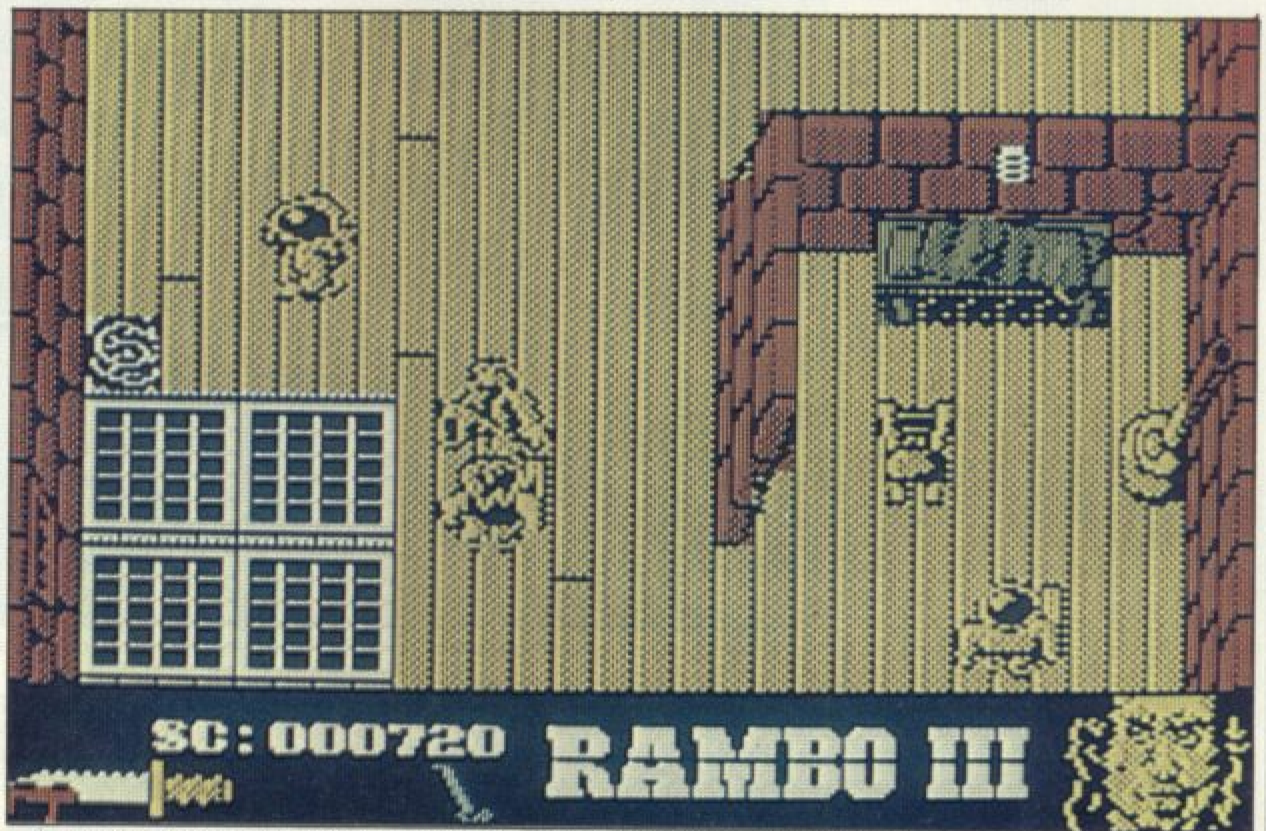
In the original *Rambo*, over-the-top violence was the key theme. In keeping with the movie, *Rambo III* involves stealth and minimal enemy contact to get through the fortress section - but for the second and third stages it's back to a fast moving, enjoyable, mindless shoot-'em-up.

The similarity between the first and second sections and narrow scope of interaction results in repetitive gameplay. This, and no save-position option, can make play frustrating. However, if you persevere, you find a good arcade adventure plus a frantic blasting sub-game – one that remains faithful to the film.

**SPECTRUM 48/128**
**Cassette: £8.95**
**Diskette: £14.95**

**A tough game, with trigger happy fast-moving Russians rushing around and rapidly diminishing energy levels. The original** Rambo **wasn't too good to look at, but the sequel features some detailed graphics, effective use of colour, and it plays well – if slightly frustrating through its difficulty.**

**OVERALL 72%**




*Mind where you put your muscle-bound tootsies or you'll be in for a grilling (Spectrum screen)*

*A portly Stallone in the bowels of a Russian mountain fortress*




**COMMODORE 64/128**
**Cassette: £9.95**
**Diskette: £14.95**

**Rambo looks a decidedly podgy sprite wandering around an unimaginatively coloured fortress. Atmosphere is difficult to create for those who haven't seen the movie, but the C64 has a go, and succeeds.**

**OVERALL 72%**

**OTHER FORMATS**

**Rambo blows away an entire Russian army on the Amstrad (Cassette £9.95, Diskette £14.95), ST (£19.95) and Amiga (£24.95) soon.**

**"A good arcade adventure plus a frantic blasting sub-game"**

PRESS ANY KEY

# SHOW HIM THE ROPES

## TKO
**Accolade**

*TKO* attempts to bring the bloody violence of boxing to your computer screens, by showing the cuts and bruises of pixelated combatants as mighty blows hit home. The packaging features a Mike Tyson lookalike, who seems a likely candidate to deal out damage, but one of the human-controlled boxers is closer to Frank Bruno – a candidate to take damage . . . ?

You guide the gloves of a boxer at the beginning of a championship, having to face five computer opponents, chosen by the computer from a selection of eight.

You too have a choice: there are four boxers in training whose portraits and statistics are displayed. Bars indicate stance and the ratios of left and right hand power, best punch, strength, and weakness. These attributes are adjusted by highlighting the appropriate feature. Also given are the number of wins, losses, knock outs, and technical knock outs – bouts won by knocking down the opponent three times in a round or when the ring doctor decides that he is too hurt to continue. These latter statistics begin at zero, increasing as the championship develops.

The length of the fight is chosen, and the bout begins. The screen is split into three areas. The upper half of your boxer is shown above his opponent, both of whom face out of the screen. As punches are thrown, gloved fists deal out punishment.

A status panel at the right shows energy, time remaining for the round, round number, and a small plan view of the ring, with the boxers' position marked.

### A certain ring to it

You have five levels of guard height (head, chin, throat, chest and stomach), up and down joystick directions moving your gloves. If you're knocked out from energy exhaustion, rapid button pressing may revive your mitted alter-ego.

There are nine offensive moves, whose target area depends on the joystick direction when fire is pressed. The type of punch – jab, hook or uppercut – is determined by your guard height when thrown, and the amount of damage inflicted if landed.

At the end of each round, statistics are listed for each boxer's performance.

A two-player game allows friends to compete in a single match.

Complete views of a ring, with side views of the fighters, are the standard format for boxing simulators, so face-on views incorporating pseudo 3-D as punches come out of the screen, are a novel twist.

While offensive and defensive moves are comprehensive, there is no way to easily move around the ring – achieved only by influencing the boxers' footsteps with blows. This turns the game largely into a simple slogging match, despite its adjustable multi-variable combatants.

The vaunted battle scars appear gradually, which, although realistic, generate little blood-thirsty aggression. Luckily *TKO* has energy without this, and its polished programming makes for an impressive fight simulator.

**COMMODORE 64/128**
**Cassette: £9.95**
**Diskette: £14.95**

**Boxers bob around convincingly, animated well for their size. And their rapidly thrown punches are neatly executed. Wounds are effectively drawn and coloured but are too mild to instil any real enthusiasm. Plain title music leads into simply fashioned white-noise sound effects that belie the aggressive nature of play.**

**OVERALL 74%**




A worried human-controlled boxer – so would you be at the prospect of multiple blows to the face

Weighing up the skills of prospective boxers in the local gym – go for it




**OTHER FORMATS**

**For £24.95, PC owners will be able to get beaten up in March.**

**"Polished programming makes for an impressive fight simulator"**

# SHORTS FOR ALL

## MICROPROSE SOCCER
MicroProse

The Games machine
STAR PLAYER

**Sensible Software** are well-known to C64 owners for the unusual addictive shoot-'em-up, *Wizball* and their games-creator, the successful *Shoot-'Em-Up Construction Kit*. After many excited previews, their latest money spinner is finally complete: a nicc game of footy.

Within the package are two distinct types of game: Association Football and American Rules Six-A-Side Indoor Football.

Four types of game are possible with each football style. In the Microprose International Challenge, 16 increasingly difficult computer-controlled teams are faced as you work your way up (and frequently down) a league table.

World Cup Tournament (All-Star in Six-A-Side) arranges 24 countries (States in Six-A-Side) into six league groups. Up to 16 human players can choose the country they wish to represent from a selection of 29. Each team plays three matches to determine who goes on to the quarter-final sudden-death play-offs. The results of non-human matches are calculated by the computer, taking into consideration the skills of the countries teams and adjusting the difficulty of matches involving human players.

Soccer/Indoor League simply allows up to 16 human players to play against each other in a league situation. Two Player Friendly is a single match between two humans.

Other options allow player names to be entered, team colours selected and other factors adjusted, such as in-game music, banana shot curve power, match length and so on.

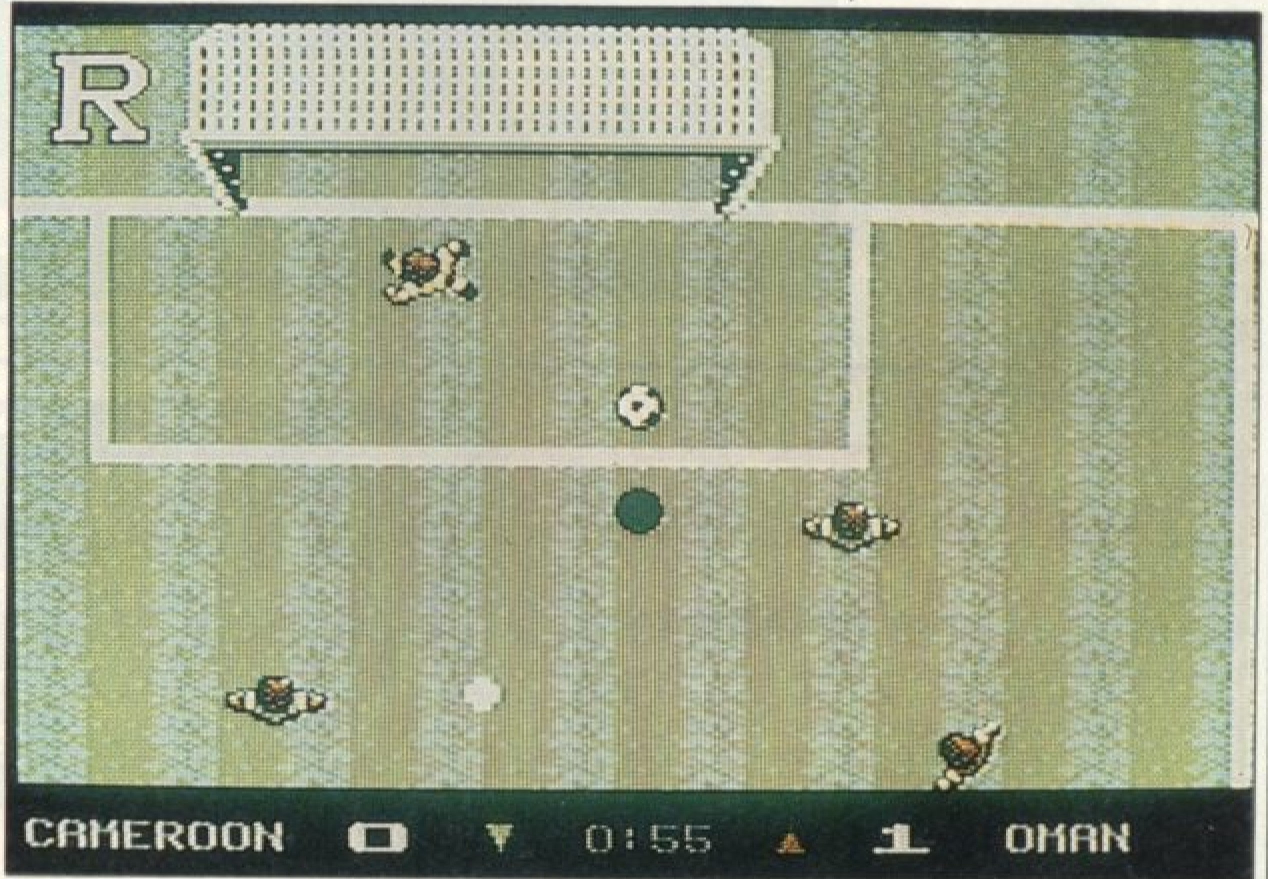
### Weather or not

The waiting over and kick off made, the player under your control is indicated by insistent flashing. In auto-select mode the computer usually selects the player nearest the ball, while in manual, you may change players by pressing fire.

Running into the ball collects it and your player automatically dribbles it. Pressing fire kicks the ball, its strength determined by how long the button is pressed. The direction the joystick is pushed (relative to the direction you are facing) determines the type of kick: chip, volley, banana or backward-overhead.

If the opposition has possession, pressing fire, while running, executes a sliding tackle, but with skill the ball can be gained by taking it from right under their noses. Tackles and other manoeuvres are made tricky by inclement weather – torrents of rain, sometimes accompanied by rumbling thunder and bright lightning.

In moving away from the usual touchline viewpoint, **Sensible Software** have eliminated ball perspective problems, but it is difficult to tell which players are yours, due to the small amount of team colour on sprites. In all other respects, *MicroProse Soccer* is of the highest quality – its fast action makes it far more playable than other soccer games. Like *Speedball* but without the violence, it is a speedy competitive game which is easy to get into but tough to master.




*Goals, fouls and throw-ins abound in the often confusingly-fast footy action of the most addictive football simulation to yet reach the TGM team*




*The six league groups of the World Cup Tournament displayed for your perusal. What's the betting England bomb-out? Ah well, it's an amusing old game*

**COMMODORE 64/128**
**Cassette: £14.95**
**Diskette: £19.95**

**Semi-cartoon sprites run energetically around a pleasant smoothly scrolling pitch, responding sharply to joystick control. The ball moves effectively around the pitch, growing and shrinking in perspective when kicked skyward, but the most impressive visuals are the action replays, complete with scan lines as the 'video tape' is rewound. Convincing sound effects – whistles, hooters, kicks and weather sounds – are matched by Martin Galway's jolly football tunes.**

**OVERALL 89%**

**OTHER FORMATS**

**PC owners can have a fun kickabout soon for £24.95 – other formats are under consideration.**

**"Fast action makes it far more playable than other soccer games"**

PRESS ANY KEY

VERSION UPDATE

# Slow slow quick quick dock

## ELITE
**Rainbird**




*Sell, sell, sell – oh sorry . . . Buy, buy, buy*

**Amiga: £24.95**

**UNSURPRISINGLY** taking next to no time to convert from the ST, *Elite* scales new heights with probably the definitive version of the original 1984 game.

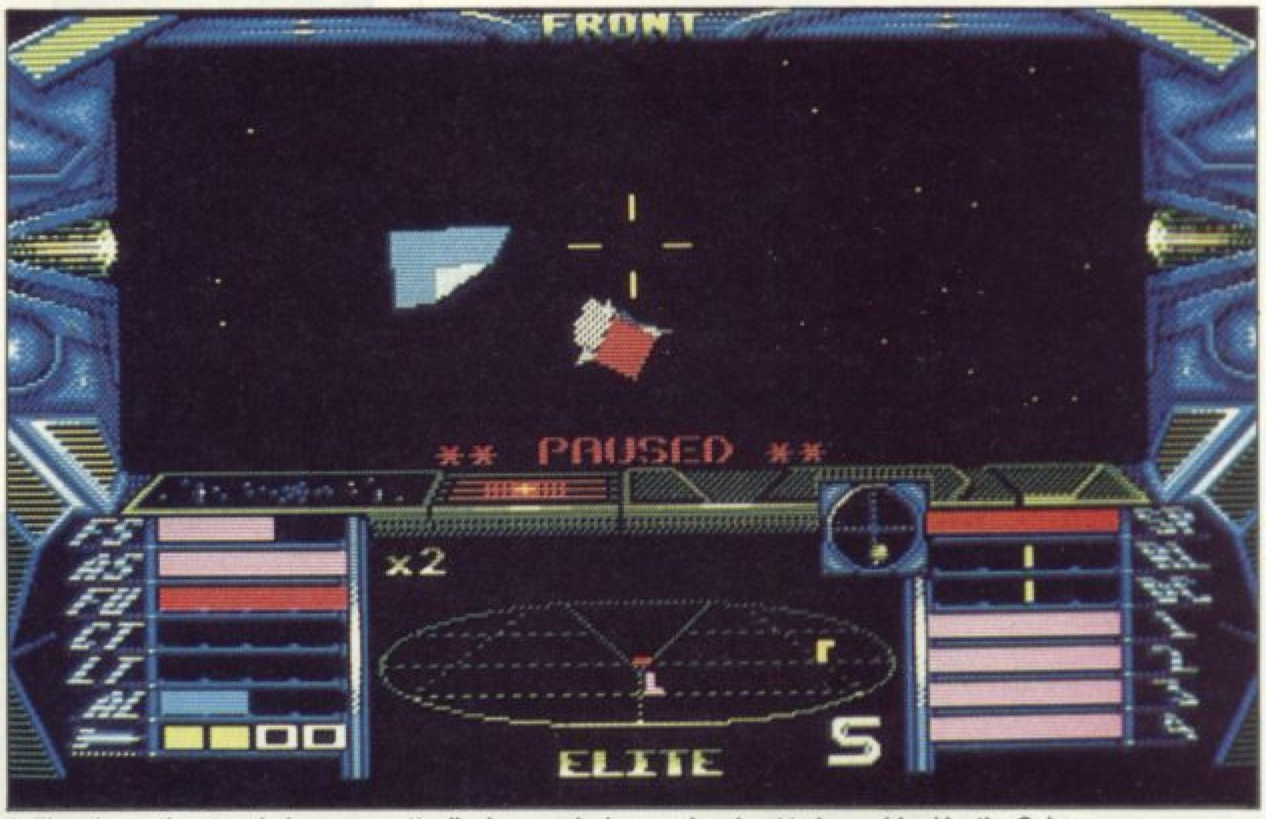
In graphics and play this is no different to the ST version. The only exception is that **Mr Micro** have made use of the Blitter, hence slightly faster moving 3-D solids.

The Amiga's extensive colours are conspicuous by their absence - shades of blue being the main order of the day. And unfortunately not enough is made of the machine's power.

Pride of place is undoubtedly the music, a slow, relaxing rendition of Strauss's *Blue Danube* waltz – a tune that one could listen to for hours – wonderful stuff!

**AMIGA: OVERALL 86%**

**PC: TGM001 88%**
**ATARI ST: TGM012 84%**
**MSX: TGM012 80%**




*There's no time to admire your pretty display panel when you're about to be grabbed by the Cobras*

VERSION UPDATE

## SOLDIER OF LIGHT
**Ace**

**Atari ST: £19.99**
**Commodore 64/128: Cassette £8.99, Diskette £14.99**

**THIS** aging Taito coin-op (and favourite of reviews editor Nik Wild) involves the task given by Galactic High Command to Federation Stormtrooper Xain. A number of planets have been invaded by a very naughty Empire, it is Xain's, and therefore your, task to free them.

Choosing the planet you wish to beam down to, your fight begins in a horizontally scrolling scene, where you run from left to right – you may also fly short distances using jet boots.

Beginning with a standard skim laser, pods dropped by slain troopers give double-shot fireballs, triple blasters, or armour-piercing lances. Levels are played against a time limit and fearsome robots defend the end of each one.

To travel to the next world, you board your laser-equipped spaceship and fight through waves of alien craft.



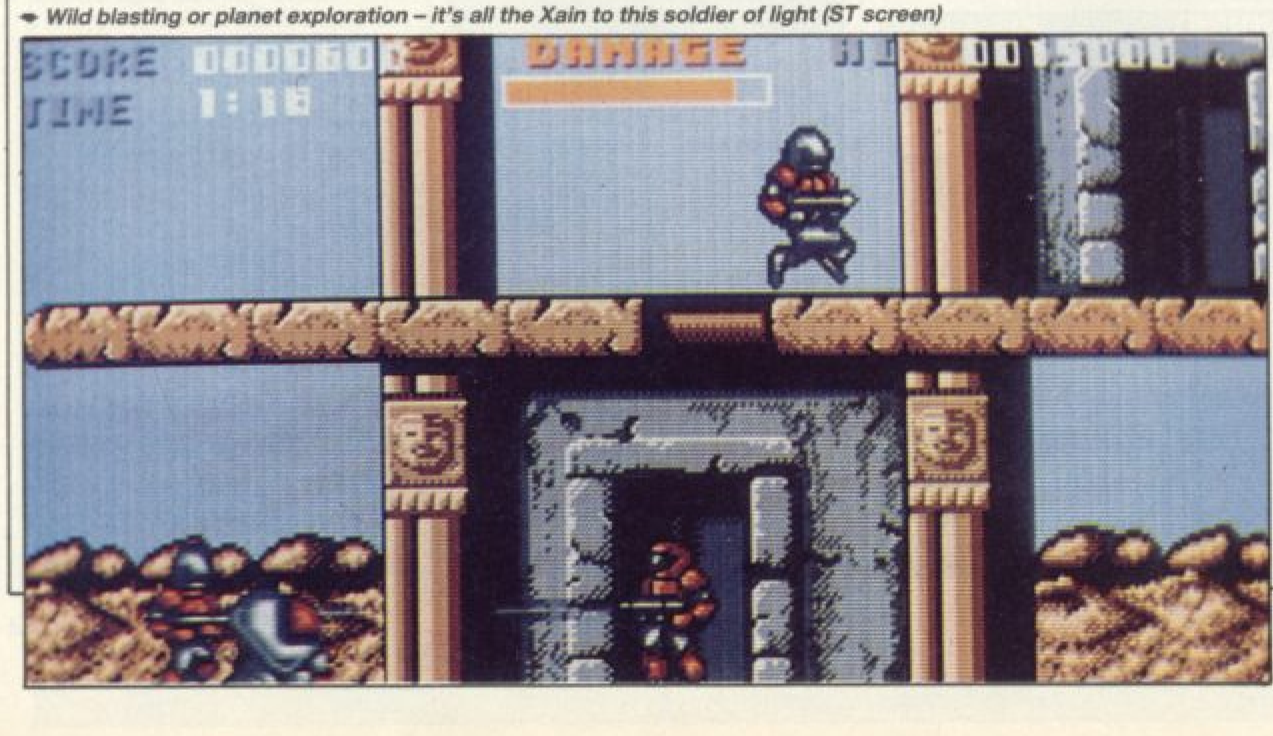

*Xain begins his attack on a weirdly animated monster (C64 screen)*

*Soldier Of Light* is in fact quite dim and dark making it occasionally difficult to see what exactly is happening on-screen. Graphics aim for adequate rather than especially accurate design. Animation on objects is nominal, and Xain himself is particularly unimpressive in movement. He is a short fat sprite on the C64, but like most of the graphics, makes good use of resolution and colour. However, the scrolling play area is disappointingly short.

The sober ST music is nothing special but the C64's effectively conveys bleak future; sound effects are standard on both machines.

A slight disappointment for 16-bits but a good conversion on the C64.

*Wild blasting or planet exploration – it's all the Xain to this soldier of light (ST screen)*




**ATARI ST: OVERALL 70%**
**COMMODORE 64/128: OVERALL 77%**

**SPECTRUM 48/128: TGM008 86%**

# LOUD PROUD 'N' DEADLY

## THUNDER BLADE

US Gold

Remember the movie *Blue Thunder* with Roy Scheider as the rogue helicopter pilot? It was the inspiration for Sega coin-op, *Thunder Blade* which in turn has become US Gold's hot new licence for Christmas.

Picture the scene - after driving your sleek Ferrari at breakneck speed around the sunshine state you decide to go back to your home country. Arriving in the capital you discover that evil dictator General Swindells has decided to invade your green and pleasant land.

As you are an all-round superhero and veteran helicopter pilot, your head quarters call you to take to the air in Thunder Blade to repel the invaders.

The rebels are fast moving and have already taken control of a city of skyscrapers, occupied mountains and deserts, taken over the river Delta and set up their HQ in a massive oil refinery. It's time to stop them.

Each of the four levels is played over three sections. The first section takes the form of over-flying landscape, the second is the more traditional 3-D flight, the final section returns to the look-down viewpoint as you pit your chopper against a mothership of gigantic proportions! On the final level Thunder Blade faces Swindell's robotic command fortress in a climatic battle.

### Roger 'n' out

Don't get cocky if you manage to fight your way through helicopters and tanks on the first level: Swindells has jet interceptors, strike aircraft and cruisers at his disposal for later levels plus behemoth motherships.

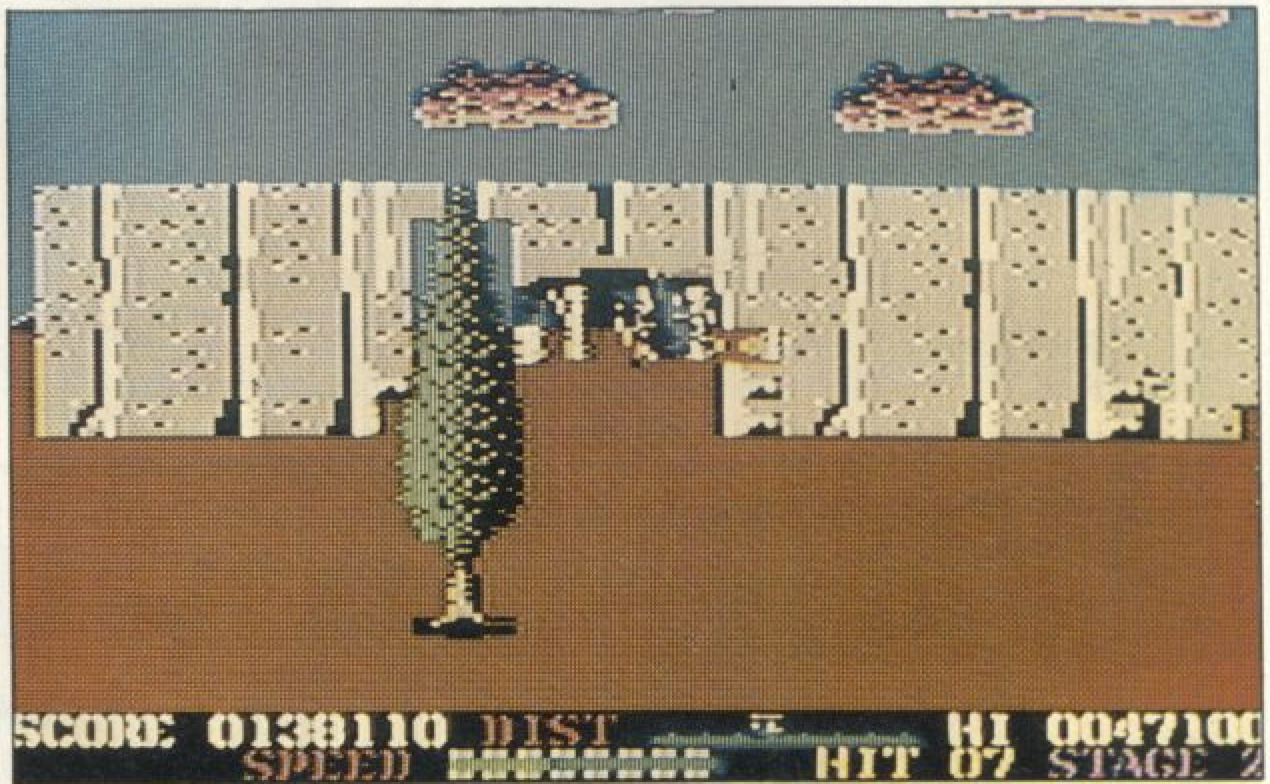
Whereas *Out Run* was generally unsatisfactory in not achieving good graphic quality or playability, *Thunder Blade* certainly is not. It features a high level of gameplay with visual and sonic quality to suit the host machine.

There may not be an awful lot of depth to each section – the moderately shallow nature of the game being a fault of the coin-op, but *Thunder Blade* wins through due to its moreish gameplay.

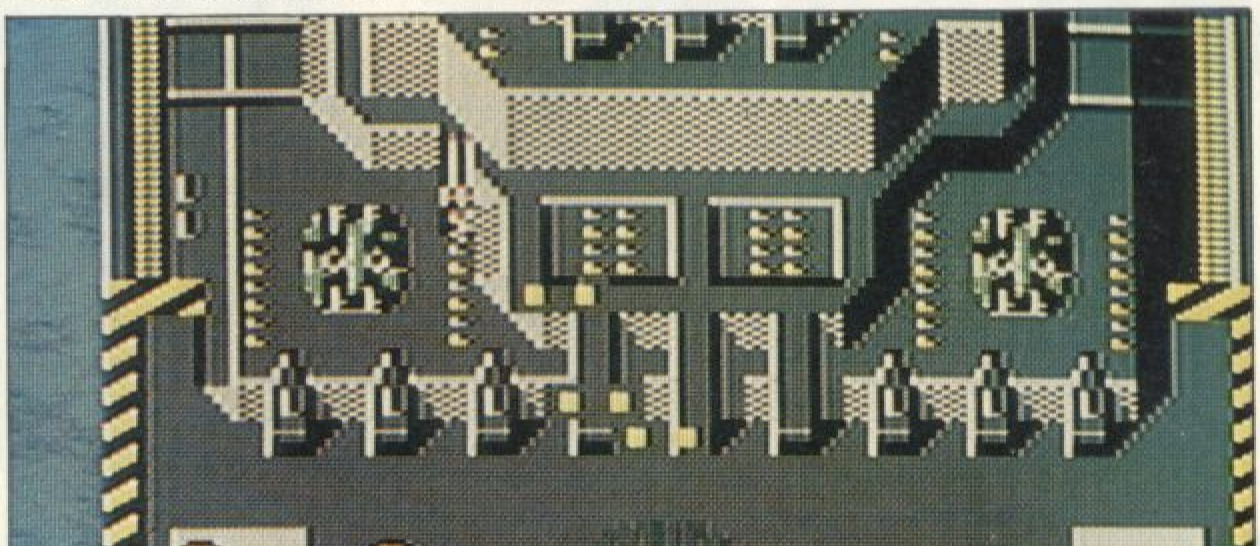
**AMSTRAD CPC**
**Cassette: £9.99**
**Diskette: £14.99**

**For some reason the playing area window is not only restricted, but changes its vertical position with each new section. Look-down sections are fine but flight through 3-D skyscrapers can be a little tricky as tanks are the same colour as helicopters – the generous number of tanks on screen tends to make the action look very messy. The over-riding problem with this version is it's ease, too many lives and not enough enemy fire combine to destroy the challenge.**

**OVERALL 54%**




*Through the canyons of your mind-blowing action – watch those rocks! (C64 screen)*




*Verticaly scrolling action ensues as you fight against all odds to thwart Swindells (C64 screen)*

**SPECTRUM 48/128**
**Cassette: £8.99**
**Diskette: £12.99**

**Graphics to the point of excellence - a shame the monochrome screen makes spotting the enemy bullets difficult. Play is fast and at least as good as other versions. Tiertex have done extremely well to convert the coin-op lock, stock and gun barrel to the Spectrum.**

**OVERALL 87%**




Flying high on an errand of revenge, building your hopes up for victory (Amiga screen)

**ATARI ST**
£19.99

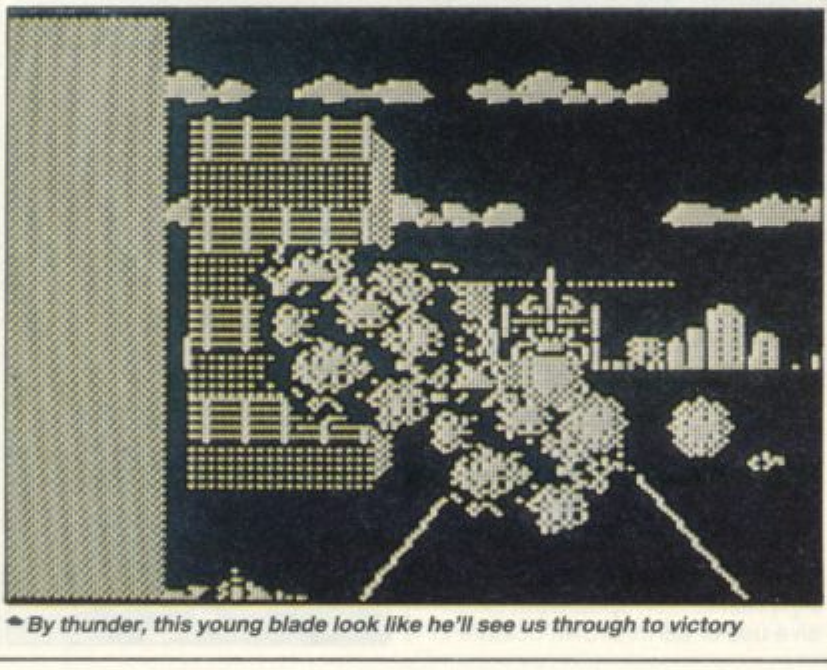
Graphically as close as it could be to the coin-op, featuring superbly faithful digitised graphics on the title page. ST *Thunder Blade* is also the toughest of the lot mainly due to the excessive number of bullets launched by the enemy. Speed isn't any faster than on 8-bit versions but the game is colourful with nicely detailed graphics.

**OVERALL 84%**

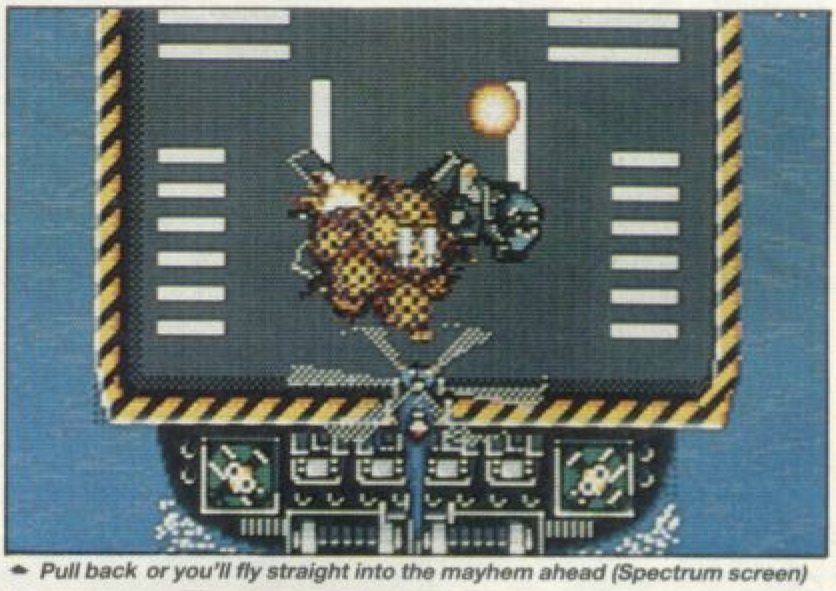
**AMIGA**
£24.99

Near enough the same in graphic style as the ST version, and the closest to the coin-op original. This is the best 16-bit implementation, with speed greater than the ST's, although the music and sound effects are similar - no more than average. The accompanying tune is ported across from the ST – and it sounds like it.

**OVERALL 85%**



By thunder, this young blade look like he'll see us through to victory



Pull back or you'll fly straight into the mayhem ahead (Spectrum screen)

**COMMODORE 64/128**
Cassette: £9.99
Diskette: £14.99

Chris Butler's *Space Harrier* influences the 3-D sections of *Thunder Blade* – hence its fast action. Unfortunately, presentation is disappointing with graphics literally wobbling past in the look-down sections and colours dull. Slightly inflexible in movement as your helicopter remains at a set speed for the first two sections of each level, but it remains playable despite all this.

**OVERALL 65%**

**OTHER FORMATS**

A PC version is scheduled for a March release priced at £24.99.

**"High level of gameplay with visual and sonic quality to suit the host machine"**

PRESS ANY KEY

VERSION UPDATE

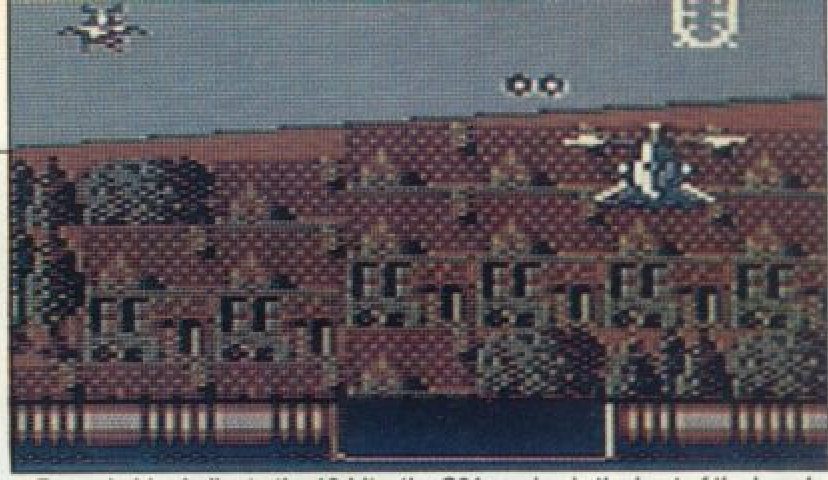
## HELLFIRE ATTACK
**Martech**

**Amiga: £19.99**
**Commodore 64/128: Cassette £9.99 Diskette £14.99**
**Spectrum 48/128: Cassette £9.99 Diskette £14.99**

**YOU** pilot a SuperCobra light-attack helicopter, acting against an unknown enemy. Your rotary cannon fire automatically as you fly above a 3-D landscape – enemy aircraft and missiles approaching. More reliable weapons are laser-guided Hellfire launch-and-leave missiles, a supply of 40 available on each level. Your SuperCobra can enter turbo speed, allowing you to fly momentarily upside down to avoid enemies.

The graphics on the Amiga are identical in definition to the ST original, but use brighter colours, have more enemy approach frames and move faster.

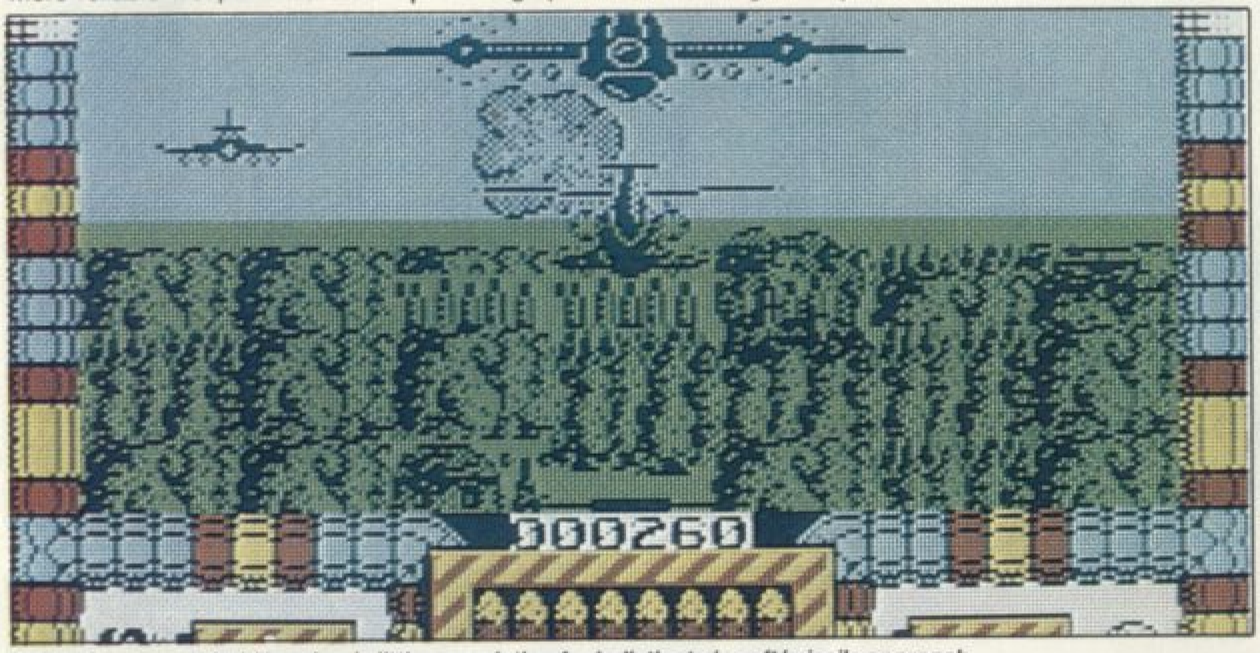
The real surprise is that the C64 version is also very similar to the ST, having equally colourful and nicely shaded ground features that are plotted for passable 3-D effect. Some sprites are abstract until near your craft, but generally graphics are commendable.



*Remarkably similar to the 16-bits, the C64 version is the best of the bunch*

The Spectrum is surprisingly slothful, and although amongst the monochrome there is the addition of a large bomber, the display gets confusing and it's difficult to spot deadly objects.

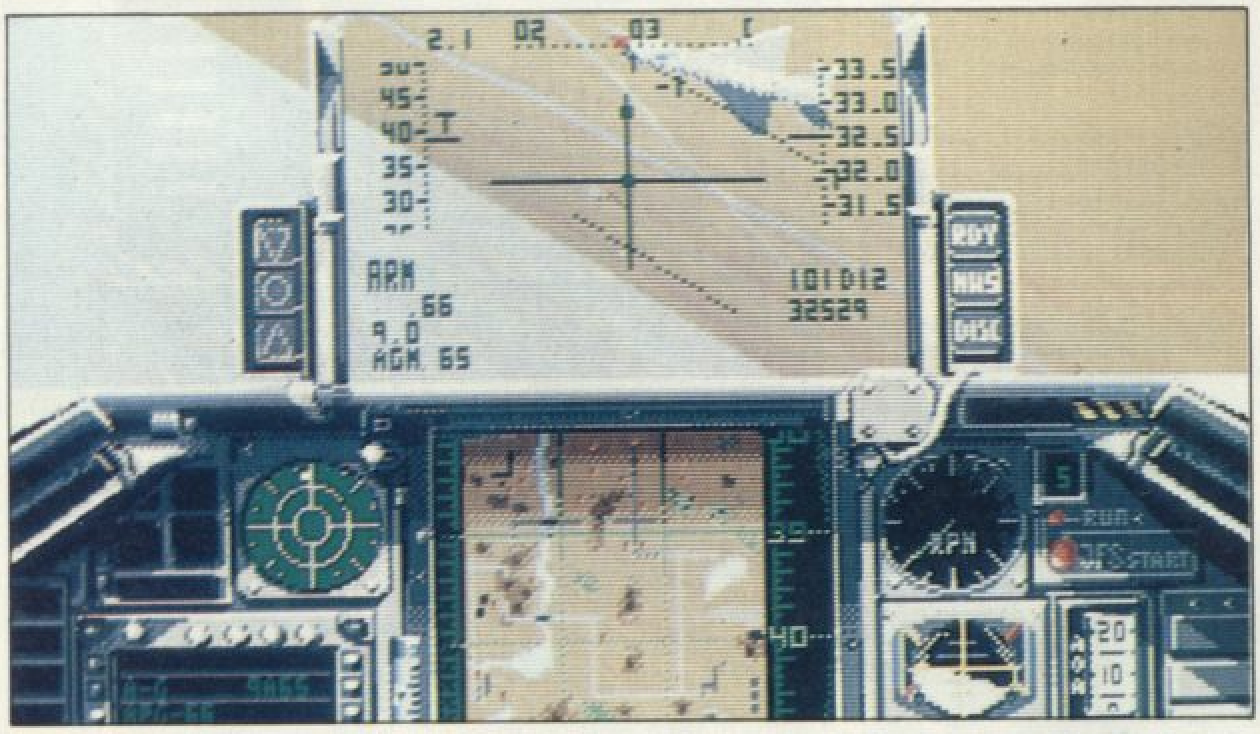
On the Amiga, the title tune warbles similarly to the ST, but has additional instruments and good sound effects. Dramatic C64 music is ruined by a nausiating death jingle. 128K Spectrum owners can enjoy raucous Heavy Metal title music and loud effects.



*The Spectrum's bold bomber is little consolation for indistinct aircraft/missile approach*

**AMIGA: OVERALL 53%**
**COMMODORE 64/128: OVERALL 59%**
**SPECTRUM 48/128: OVERALL 44%**

**ATARI ST: TGM013 52%**



VERSION UPDATE

# Eagley take control

## FALCON
**Mirrorsoft**

**Atari ST: £24.99**
**PC: £34.99**

**MIRRORSOFT'S** award winning F-16 simulation makes its debut on ST and Amiga and re-emerges on the PC.

*Falcon* covers twelve ground strike missions against SAM sites, communication centres, runways and bridges. Three MiG-21's can be up in the air at any one time to give your F-16 something extra to think about.

The PC version is just an extension of the existing game but with the addition of EGA colours. This development gives *Falcon* more impact, adding the final touch of realism to a very decent flight simulator. *Falcon* is best played on a 286 or 386 equipped PC. Anything less and the action slows down considerably.

The ST version is a complete rewrite, with not only a staggeringly fast screen update but extensive use of earth-brown colours in landscapes that create realistic settings and give the game an atmosphere lacking on the PC.

*Falcon* features near-perfect realism of flight controls and plane performance, unfortunately the illusion of height is marred by your ability to see minor roads, buildings and even telegraph poles from 70,000 feet. A small point, but one which should have been rectified during the programming stage.

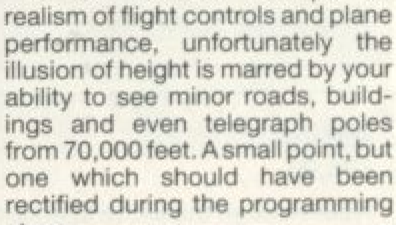
Both versions feature modem play, the ST also allows for link up to Apple Macs and Amigas, furthering the game's possibilities.

On the 1 Megabyte ST, a Black Box option allows you to review combat and learn from your mistakes – the PC has this option already installed.

*Falcon* provides hours of entertainment for devoted armchair pilots. There may be a lack of long-term challenge and the variety of play isn't as deep as MicroProse games, but it's got plenty to keep flight simulator fans, and newcomers to the craze, very happy.

**ATARI ST: OVERALL 81%**
**PC: OVERALL 78%**

**PC: TGM005 79%**



# F F F FOURTEEN

## AFTERBURNER
Activision

The Grumman F-14 Tomcat – capable of Mach 2.34 at height, armed with the longest range air-to-air missiles in the world and the US Navy's premier carrier-based fighter. Sega – Japan based maestro in producing top quality coin-ops. Activision – one of the most successful software houses in the UK. These three leaders in their field join forces to bring you home computer conversions of the 1988 top grossing coin-op – *Afterburner*.

*Afterburner* stormed its way into arcades around the world and became Sega's biggest selling machine to date. Featuring three megabytes of superlative graphics, sound and heart-rending action, how could Activision be expected to convert it to home computers?

For those who failed to notice the blanket promotion for the game, it is a flight-combat shoot-'em-up set over 23 levels. Your F-14 is ready, waiting and armed



with unlimited cannon shells for close combat and a lock-on fire-and-forget missile system. To destroy MiGs, lock-on target, squeeze the trigger and watch your missile heat-seek home.

Through war torn skies you pilot the F-14, taking on, and hopefully defeating, a seemingly endless enemy force of fighter planes. Enemy craft and a salvo of heat seeking missiles rush toward your plane in an attempt to stop you – it's a case of avoid or die!

### One MiG-hell

The basic theme is dodge enemy missiles, launch your own and survive to the next level. Added to this mayhem are canyons to negotiate – hit the sides and your mission comes to an explosive end.

At certain stages you refuel in mid-air and also land at secret air-bases to top up your firepower. Running out of missiles is not a good idea.

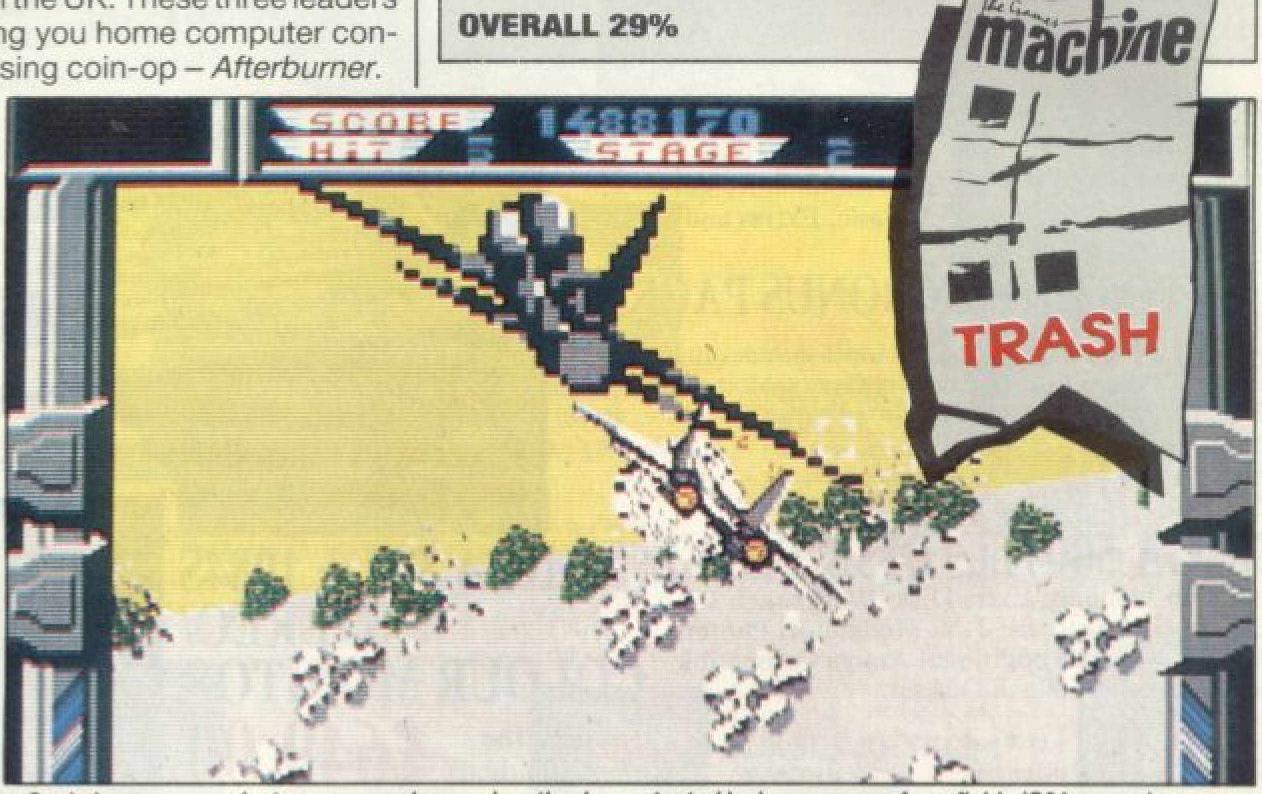
Afterburner may not seem awesome from the plot – in fact the coin-ops success comes from the incredibly fast action and marvellous graphic quality. Actual gameplay is limited and can even become repetitive.

Ironically, home computer conversions have had to make graphics a secondary priority. The most important requirement was to feature the simple gameplay of the coin-op.

**COMMODORE 64/128**
**Cassette: £9.99**
**Diskette: £14.99**

**If you can put up with the barely adequate graphics, confused play and at times horrific presentation, you may find a barely playable game. The worst feature is the presence of character blocks around missiles and aircraft when they pass over the ground – such crudities haven't been seen for at least five years. If you've a perverse desire to waste your money, give this version of** Afterburner **a whirl.**

**OVERALL 29%**




*Gosh, how can you destroy enemy planes when they're protected by huge square forcefields (C64 screen)*

**ATARI ST**
**£24.99**

**With** Argonaut Software**'s programming pedigree, 16-bit versions looked set to be superb – they're not. There is no impression of high speed, confusing graphics make firing and dodging missiles tricky, and mystifyingly jerky plane moves kills all emotions of being there. Graphics feature primitive bushes and unreal runways but radar towers and trees are nicely detailed (unfortunately you do have time to admire them!). Urgent vocal messages are included but they add little to play.**

**OVERALL 47%**

**SPECTRUM 48/128**
**Cassette: £9.99**
**Diskette: £12.99**

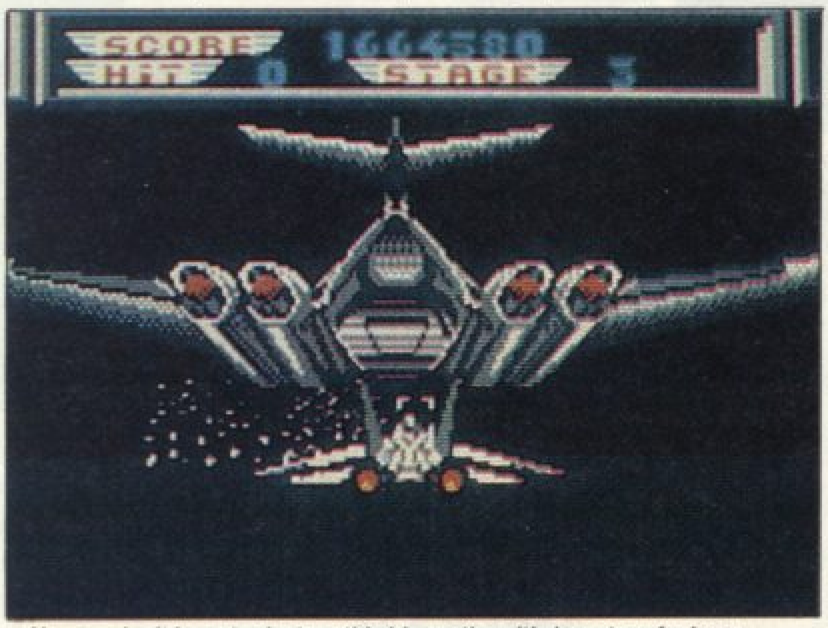
Keith Burkhill **must have had many a sleepless night when it came to converting this to the Spectrum. Those sleepless nights have paid off in producing a game of thoroughly enjoyable playability. It may not look much with its mainly monochrome display, fast moving but limited ground graphics and narrow screen width, but it incorporates gameplay to match the arcade machine and is just as much fun to play – amazing!**

**OVERALL 83%**

**OTHER FORMATS**

***Afterburner* is soon to be converted to the Amstrad (Cassette £9.99, Diskette £14.99), Amiga (£24.99) and MSX (Cassette £9.99).**

**"A case of avoid or die!"**




*No, you don't have to destroy this big mother, it's here to refuel you*

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*MPS 1200P*



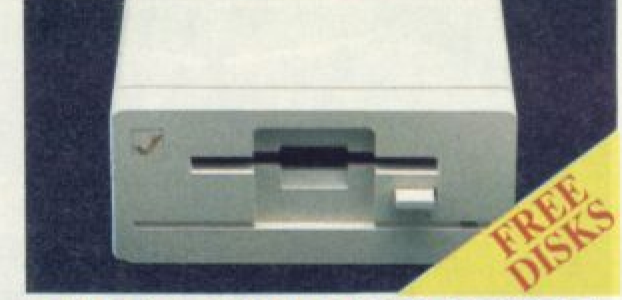
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| TABULATION SPEED | 2 char/s |
| PRINTING DIRECTION | bi-directional, with optimised head movement |
| PRINT PITHES | 10 char/in to 24/char/in programmable from line, and in SET-UP mode |
| LINE FEED | — 1/6in (4.23 mm), 1/8 (3.17 mm) and 7/72 in (2.4 mm); — n/216 in and n/72 in. |
| CHARACTER SET | ASCII characters and special characters. |
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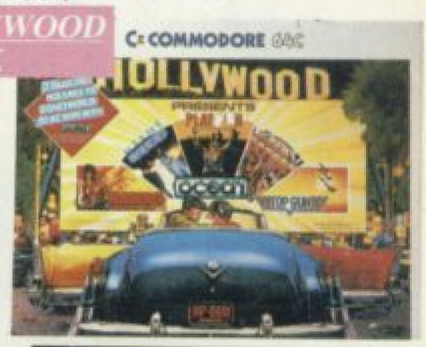
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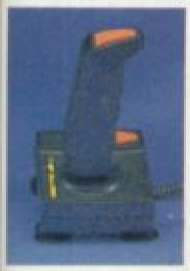
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**TAC 5 CONTROLLER JOYSTICK**

Compatible with Atari. Commodore.

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**COMPETITION PRO 5000**

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**£14.95**



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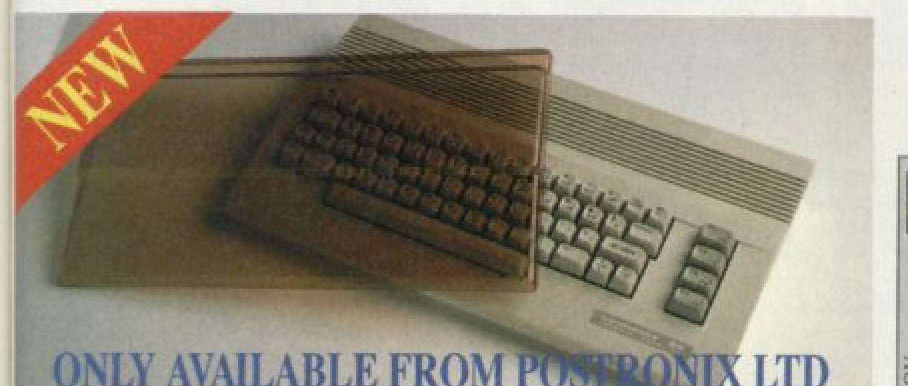
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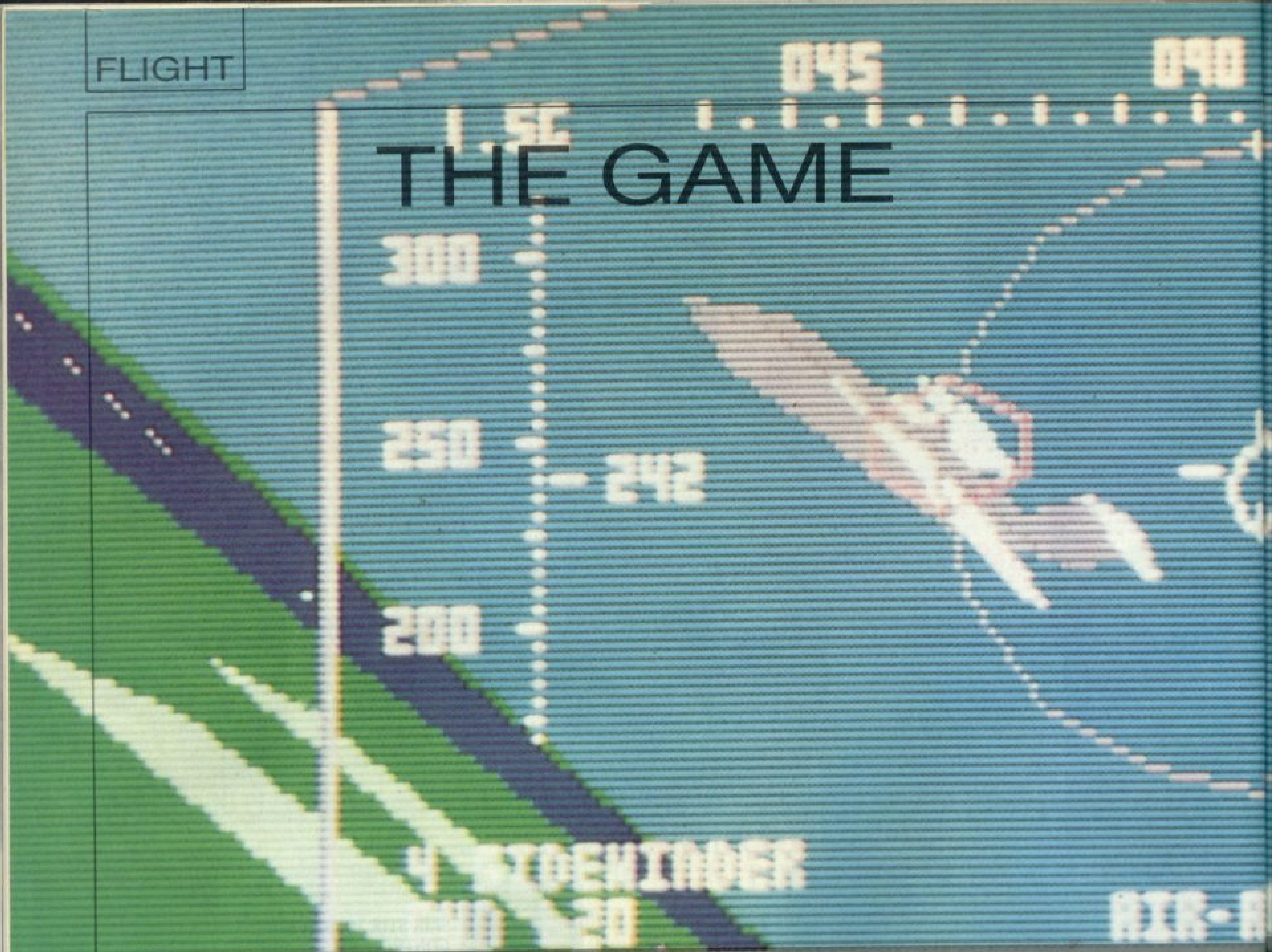
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# THE GAME




VERSION UPDATE

## High-tech sneakers

### F-19 STEALTH FIGHTER
**MicroProse**

**PC: £34.95**

**WITH** near perfect timing, MicroProse have released the eagerly awaited PC conversion of their F-19 simulation. Coinciding with the acknowledging by the US Air Force of the real F-19's existence and the subsequent unveiling of the B-2 Stealth Bomber, the game is extremely topical.

With as much faith as is officially possible, *F-19 Stealth Fighter* simulates the flying of the craft (actually designated the F-117A) in a number of combat situations around the world.

Covert, low-profile operation is the name of the game. Flying into the heart of enemy territory, taking out targets and making it back safely takes skill and courage. Enemy fighters are out looking for trouble, SAM sites are searching for intruders and enemy radars are on constant alert. On higher levels, with veteran enemy forces and the ultimate risk Central Europe scenarios to take part in, you'll be glad you're flying a near radar-invisible Stealth Fighter.

On the C64, *Project: Stealth Fighter* was a near perfect flight simulator, succeeding through accuracy, realism, depth and atmosphere. On the PC it's all so much better thanks to MicroProse's considerable talent in using the host machine's capabilities and surrounding it with top-notch presentation. The programmers have also included functions to bring up external, chase plane and missile views, and even a novel tactical view where the action is shown through the eyes of the enemy target. Another neat touch is the debriefing where every moment of the mission, warts and all, is relived.

The graphics surpass every other flight simulator yet seen in terms of attention to detail. Ships leave a wake in the water, planes take off and land from runways, cargo ships can be seen berthed next to cranes in the docks, pilots eject from stricken planes.

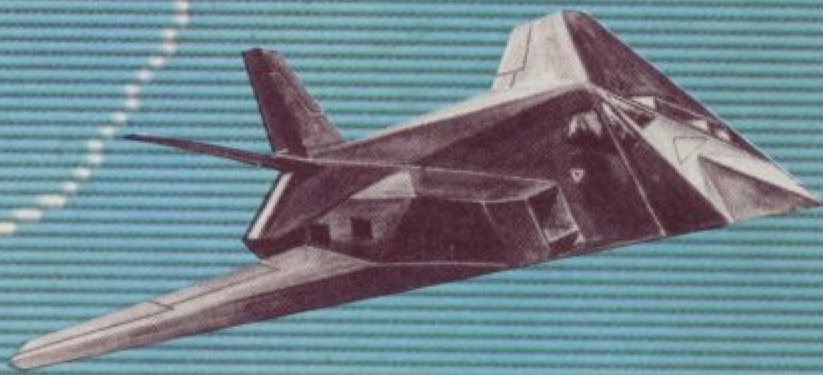
On the negative side, sound is a bugbear and, other than a sampled piece of intro music, it amounts to little more than white noise.

The game has been designed with 286 and 386 processor equipped PC's in mind. A humble Amstrad PC may not be in this category and updates are a little slow (comparable to C64 speed), but the overflow of mission information is more than enough to keep pilots busy when things get nasty.

**PC: OVERALL 95%**

**COMMODORE 64/128: TGM004 93%**

# THE PLANE

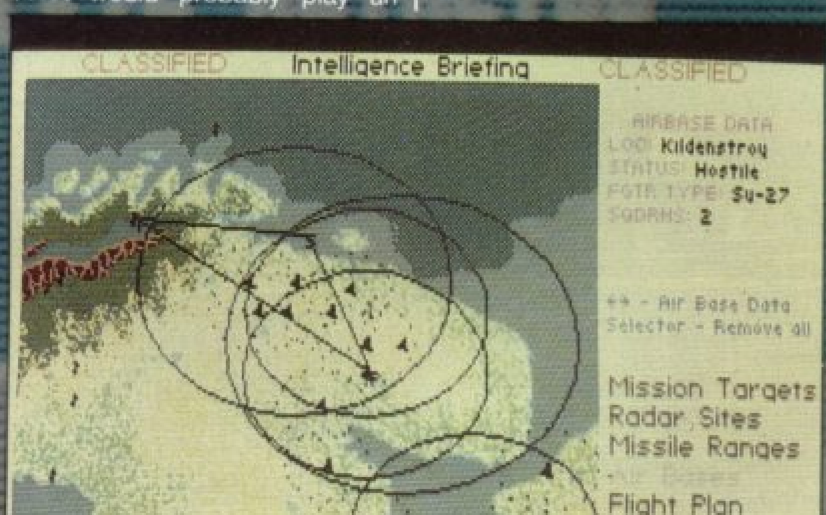


## The secret realised

**THE** real-life Stealth Fighter has enjoyed seven years of relative secrecy, it wasn't until November 10 of last year did the USAF confirm its existence. The length of time the F-19 has withstood media attention is remarkable in this age of probing media – models have been made, books written, unofficial and official pictures have been released and there is a computer game based around it . . . but nobody knew for sure.

With 52 already in operational service (based at the 4450th tactical group near Nellis Airforce base) and another 7 on the cards, the Lockheed, Skunk Works-built subsonic F-19 is officially titled the F-117A, and it looks an ungainly beast. A complete opposite to the smooth, low profile craft of modern fiction, the F-117A has a sharp angled fuselage designed to scatter radar signals in all directions and provide a low radar return. It is also likely that a radar absorbent coating has been applied to the exterior to enhance its stealth qualities.

MicroProse may have got the physical shape of the aircraft wrong, and jumped the gun in assuming the aircraft can operate from carriers out at sea, but what they *have* realised is that the F-117A would probably play an active role outside the USA. Bases in Britain, Germany, and perhaps even South East Asia and Alaska are a possibility; and with its size allowing transport in C-5 galaxy planes, we may yet see one of the elusive beasts at a future Farnborough airshow. Roll on the future.




*Pinpointing airbases in the north cape during a mission briefing*

# MIG SEASON

## F-16 COMBAT PILOT
**Digital Integration**

Digital Integration have a healthy habit of producing fine simulations (*ATF and Tomahawk for example) – even if they do take an age over them. F-16 Combat Pilot* is no exception, with nine man-years of development, a host of contributions by USAF F-16 pilots and the expertise of aviation expert Bill Gunston behind it.

Although training sessions are available for you to practise your flight and landing techniques, increased enemy activity makes the temptation to go straight for a mission too strong to resist.

Enemy MiGs patrol close to your territory, and ground forces require air support against heavily armed tank battalions. There is also the option to go deep into enemy territory to take out supply lines and installations and undertake reconnaissance missions for up-to-date information on their movements.

Once five successful missions are under your belt, Operation Conquest commences, where skills learned are put into deadly effect against the enemy. Your time is divided between protecting allies and going on the offensive.



With ECM and Weapons out, taking on the tank could be a foolish move

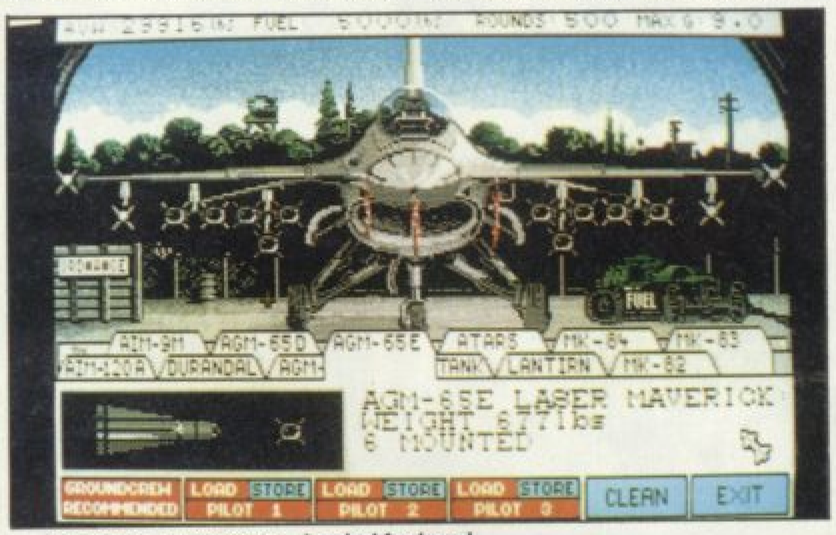
### Mission in action

Along with standard flight-controls (slightly simpler than the Mirrorsoft program), *F-16 Combat Pilot* pulls out all the stops to provide depth and game complexity.

Features include re-armament screens, plane repair facilities, four other Falcons to command, save/load position option, a dual-ST dogfight mode, three types of enemy MiG, over 1500 targets, progressive skill levels, weather effects and intelligence reports.

And to really pile the pressure on, there's a compelling strategy element, whereby mission results (good and bad) have a knock-on effect. The performance of other Falcons and ground forces are taken into account when shaping a war-winning strategy.

Play *F-16 Combat Pilot* and you'll find out what multi-role really means.

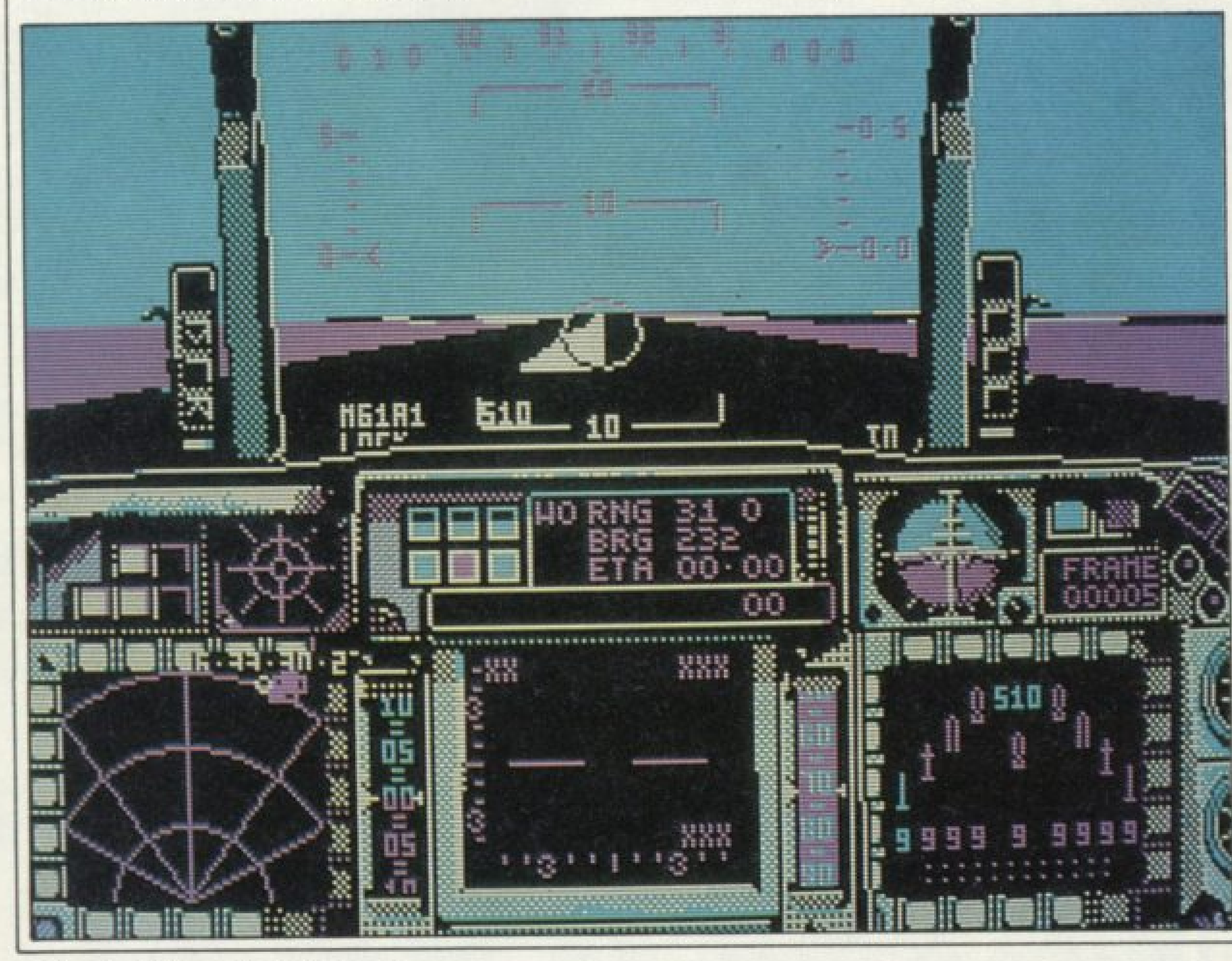



The armament screen – loaded for bear!

**ATARI ST**
**£24.95**

**Featuring very smart peripheral screens, *F-16* couples wireframe graphics with solid 3-D buildings and mountains to good effect. Presentation is excellent, although not as glossy as *Falcon.* Screen update is fast and there's as much atmosphere to the game as any simulation yet seen.**

**OVERALL 94%**




**PC**
**£24.95**

**In-flight action may not have the graphic definition of *F-19*, but the presence of long-term game strategy gives *F-16* considerably more depth and challenge. While EGA is used well and graphics are as distinct as the ST game, the colours haven't quite got the same sparkle about them.**

**OVERALL 93%**

**OTHER FORMATS**

**Experience *F-16 Combat Pilot* soon on the C64, Spectrum and Amstrad (Cassette £14.95,Diskette £19.95) and Amiga (£24.95).**

**"Makes the temptation to go straight for a mission too strong to resist"**

# 520ST-FM SUPER PACK



**1Mb DISK DRIVE**
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| Atari CX40 Joystick | Atari Corp | £4.99 |

**FREE ATARI BUNDLE VALUE: £458.97**

The Atari Super Pack is ideal for you if you want to get off to a flying start with the best in entertainment software. The Pack includes a 520ST-FM with ½Mb RAM, a built-in 1Mb disk drive, over £450 of top games and a joystick. If you buy the Super Pack at Silica Shop, we will add our own ST Starter Kit (worth over £200), Free Of Charge. Return the coupon for details.

**£399**
INCLUDING VAT

With SM124 mono monitor: £498 INC VAT — With SC1224 colour monitor: £698 INC VAT

# ATARI ST

## ST COMPUTERS

The range of Atari ST computers offers something for everyone. From the games enthusiast who wants the challenge of the very best in arcade action, to the businessman who wants to make financial forecasts or faultless presentations. The ST offers high quality graphics, sound and speed for the gamer, whilst providing a fast, user friendly and affordable solution to business. The ST is now firmly established in the home environment and boasts a wealth of users in education, local government, television, and a variety of different businesses. Software for the range stretches to cover applications as diverse as ENTERTAINMENT, ACCOUNTS, ART, COMMUNICATIONS, COMPUTER AIDED DESIGN, DATABASES, DESKTOP PUBLISHING, EDUCATION, MUSIC, PROGRAMMING, SPREADSHEETS, WORD PROCESSING and more. For a full list of the software available, as well as details of the ST range, complete and return the coupon below.

*All prices correct at the time of going to press. E&OE.*

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The value for money offered by the Atari ST range is reflected in the Explorer Pack featuring the 520ST-FM computer with 512K RAM. The 520ST-FM computer now comes with a built-in 1 Mb double sided disk drive as well as a free mouse controller and a built-in TV modulator. The new 520ST-FM Explorer Pack includes the 520ST-FM computer, the arcade game Ranarama, a tutorial program and some useful desktop accessories. In addition, if you buy the Explorer Pack from Silica, we will give you the Silica ST Starter Kit worth over £200, FREE OF CHARGE. Return the coupon for details of our Starter Kit and of the full ST range.

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**£499**
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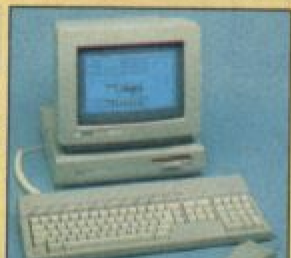
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The MEGA ST computers are styled as as lightweight keyboard with a separate CPU, connected by a coiled telephone style cable. There are two versions of the MEGA ST, one with 2Mbytes of RAM and the other with 4Mbytes. Each version has a 1Mbyte double sided disk drive built-in to the CPU unit. The MEGA ST's do not come with modulator built-in and must therefore be used with a monitor. With every MEGA ST purchased, we will add the 'Professional Pack' software (worth £384.83) detailed above, plus the Silica ST Starter Kit (worth over £200) both Free Of Charge. Return the coupon for further details.

**2Mb MEGA ST** — **£899** INC VAT
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+colour monitor = £1198

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+mono monitor = £1298
+colour monitor = £1498



# DTP PageStream £149 +VAT =£171.35

Desktop Publishing (DTP) is one of the fastest growing applications for personal computers. We are pleased to announce a powerful low cost package for the Atari ST called PageStream. PageStream costs only £149 (+VAT=£171.35) and, because it works with an Atari 1040ST and a Seikosha SP-180AI printer, you can be up and running with a complete system for less than £1000. Some of the features of PageStream are listed to the right. If you would like further information on this program, complete and return the coupon below, ticking the 'DTP' box in the corner.

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* GROUPING OF OBJECTS

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## ●PILOT the F-19!

*Amstrad's Alan Sugar and the PC1512 prize: 'Hurry up with the photo, mate, I want to play this F-19 Stealth Fighter'*



The future of flight has been revealed – after seven years of secret missions, the United States Air Force finally acknowledged the existence of their F-19 stealth fighter last November. Officially called the F-117A, this state-of-the-art aircraft is almost undetectable by radar and designed for fast, lethal attacks on ground and air targets. And now **MicroProse**, masters of computer flight, have completed the PC simulation: *F-19 Stealth Fighter*, which earns 95% this issue.

To celebrate this top-scoring game, MicroProse are offering a **PC with monitor** and a copy of *F-19 Stealth Fighter* to the winner of this competition. All that's required to answer the questions is careful reading of our review feature, starting on page 62, and a bit of research.

But because the prize is so big, and hundreds of readers are bound to be competing, we're asking you to try a tiebreaker as well.

Entries should be sent on a postcard or the back of a sealed envelope to **FLYING WITH MICROPROSE COMP, TGM,** ***PO Box 10, Ludlow, Shropshire SY8 1DB***, to arrive by **February 16**. Usual rules as printed on the contents page apply.

Thanks to Diarmid Clarke for putting together the questions.

# UGH THE



## QUESTIONS

● 1 How many crew members does the F-19 have?

● 2 Which US manufacturers make the F-19?

● 3 What is the highest medal that a United States Air Force pilot can be awarded?

● 4 In the world of military aircraft, what does SAM stand for?

● 5 A MiG is a Soviet fighter plane. What does MiG stand for?

### TIE-BREAKER

● The F-19 is the ultimate plane for simulation because . . . *(complete in not more than 20 words)*

## THE PRIZE

**Amstrad PC1512** with one disk drive and mono monitor (£458.85 in the shops)

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**GEM** interface

The PC1512 is a **'small footprint'** machine – it takes little space compared with others of the same power

# CONFRONTATION: COIN-OP

**This month Robin Hogg journeys to the heart of Manchester to plug coins into *Power Drift*, *Ordyne* and *Cabal*. Thanks to Alan at Sunspot for letting the him loose on the machines.**

## SLOT NEWS

**FOLLOWING** on from *Double Dragon* and *Gauntlet*, *Operation Wolf* is to appear on the *Nintendo Playchoice 10*. As Nintendo don't go in for Uzi guns on their cabinets *Operation Wolf* can be played via good old joysticks. Check it out.

Further to the review of *Power Drift* this month,Sega have brought out the **Power Link**, a system allowing two players to race against one another in the *Power Drift* setting – a rival to *Final Lap* perhaps. Whatever, it is it's a more logical system than the Super Sprint monster scalextric.

## POWER DRIFT

**Sega**

At last the *true* follow-up to *Out Run*! Following the brief and highly successful excursion into aerial and space combat with *AfterBurner*, *Thunder Blade* and *Galaxy Force*, *Power Drift* puts you back in the well-worn driving seat. This time there are none of the pleasantries of Ferrari racing, in your turbo charged buggy this is one bone shaking, teeth rattling, rough ride all the way.

Starting off with the selection screen where a budding boy racer can select a persona to sit in the car (including a female driver – is this a first?). Following the selection screen we go down to the start point and the others accelerate away.

The memories of *Out Run* come flooding back as the race begins but *Power Drift* is anything but sedate – buggies ram each other, swerve all over the place and even drive off the road, weaving through trees, signs and other obstacles. These buggies are tough nuts and only a severe bashing or horrifying plummet off sky-high tracks will prang your souped-up 4x4.

The *Out Run* influence plays a major part in this technically unoriginal game although *Power Drift* is significantly better not only in style and presentation but also in variety with 25 courses to race around.

Those of you experienced in *Out Run* should find the first few tracks a doddle but the demands are even higher. With eleven other racers going equally fast and some tortuous, roller-coaster ride circuits to witness, it can get quite tough later on.

As usual, *Power Drift* has all the typically Sega professional effects, not least of which are the superb layered graphics rushing past at phemonenal speeds. There's so much to see (or not, as the case may be) it seems a shame that much of the brilliance of the graphic design is lost to the games speed.

I can't imagine *Power Drift* being an great hit, the price of playing (especially in its Deluxe form) together with its similarity to *Out Run* means that it doesn't offer much that's new. And up against *Chase HQ*, it doesn't fare too well.



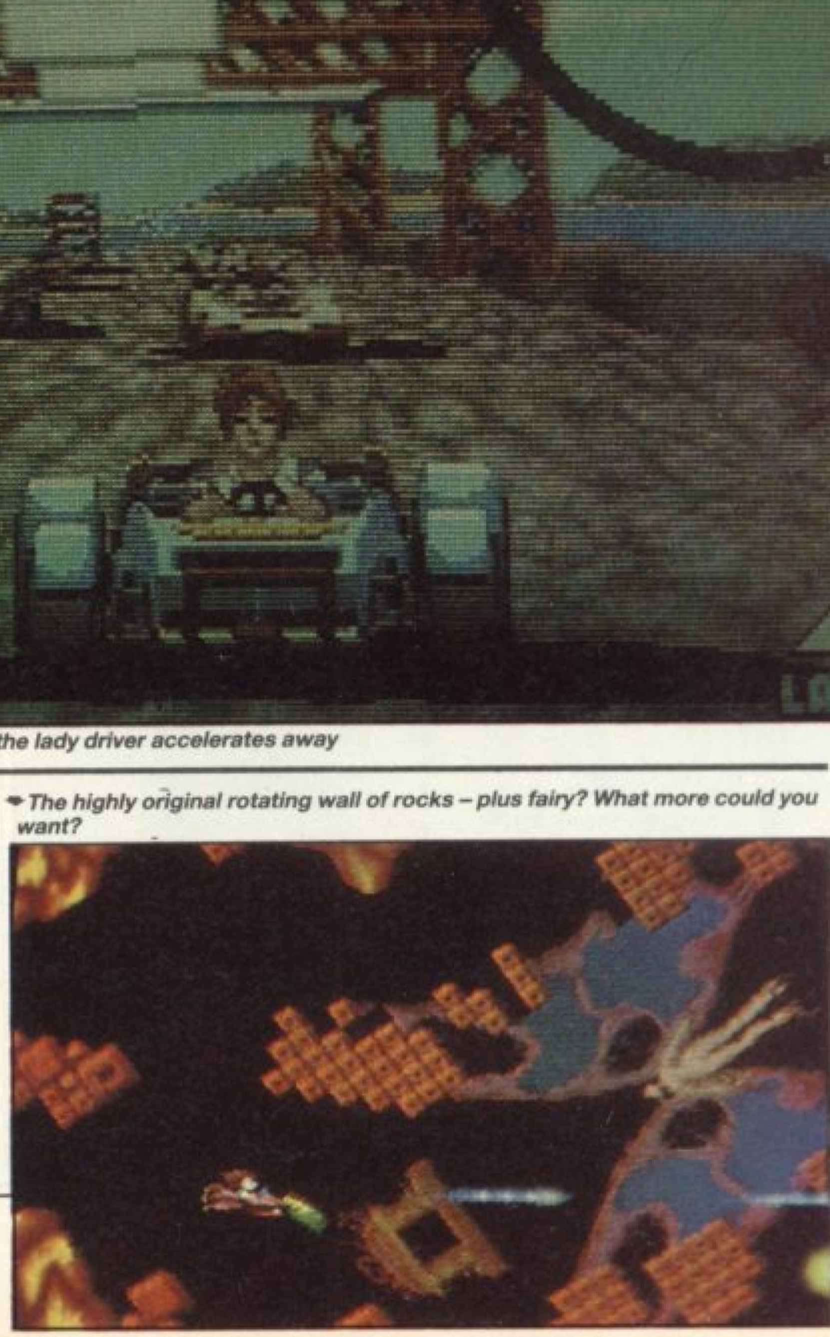
*Watching from in front of the car as the lady driver accelerates away*

## ORDYNE

**Namco**

Following a recent parting of the ways between **Namco** and **Atari** we now see the former bringing out games under their own name. *Ordyne* is one of them, and although it may not win any points for originality it does show just how good Namco are at producing games.

*The highly original rotating wall of rocks – plus fairy? What more could you want?*





Attack of the killer turtle – an enemy with a tortdise in life

Your beloved lady friend has been stolen by some thoroughly nasty foes and whisked millions of miles away. Hopping on a hover cycle you zoom off to rescue her and vanquish the enemies.

Mr Rescuer (and friend if in dual-mode) hover through countless horizontally scrolling levels firing missiles and dropping bombs on the familiar alien creatures and defences below. Watch out for the deadly windmill, the rotating maze of rocks, the *Darius* style cruiser, the *R-Type*-style mothership and even a Wheel of Fortune (what no Vanna White?) – this hotpot of game ideas makes *Ordyne* one very odd game.

To add to this strangeness, shops (cunningly disguised as warp tunnels with 'Come In' plastered over them) float past – within are goodies to buy, speed-ups and mega-weapons to keep you going - buy what you want and get on with the blasting.

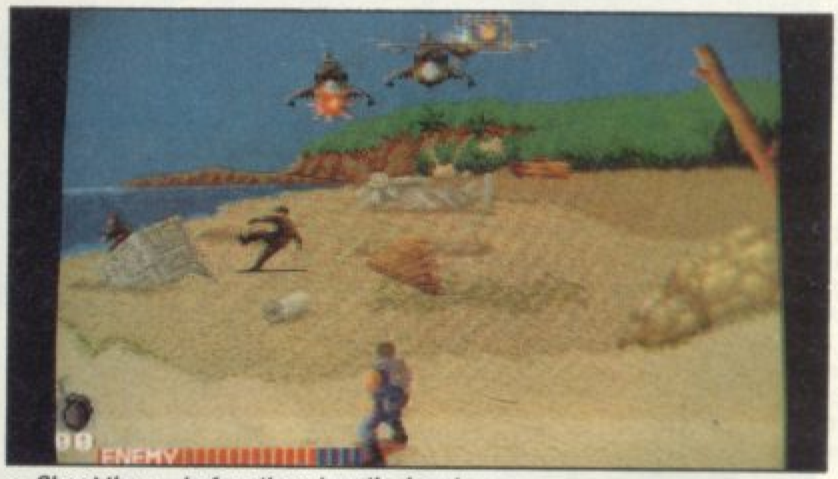
*Ordyne* may not be one of Namco's greatest but it's got enough to make for an enjoyable game. It's just a pity that it's let down by decidedly average graphics.

# CABAL

**TAD Corporation**

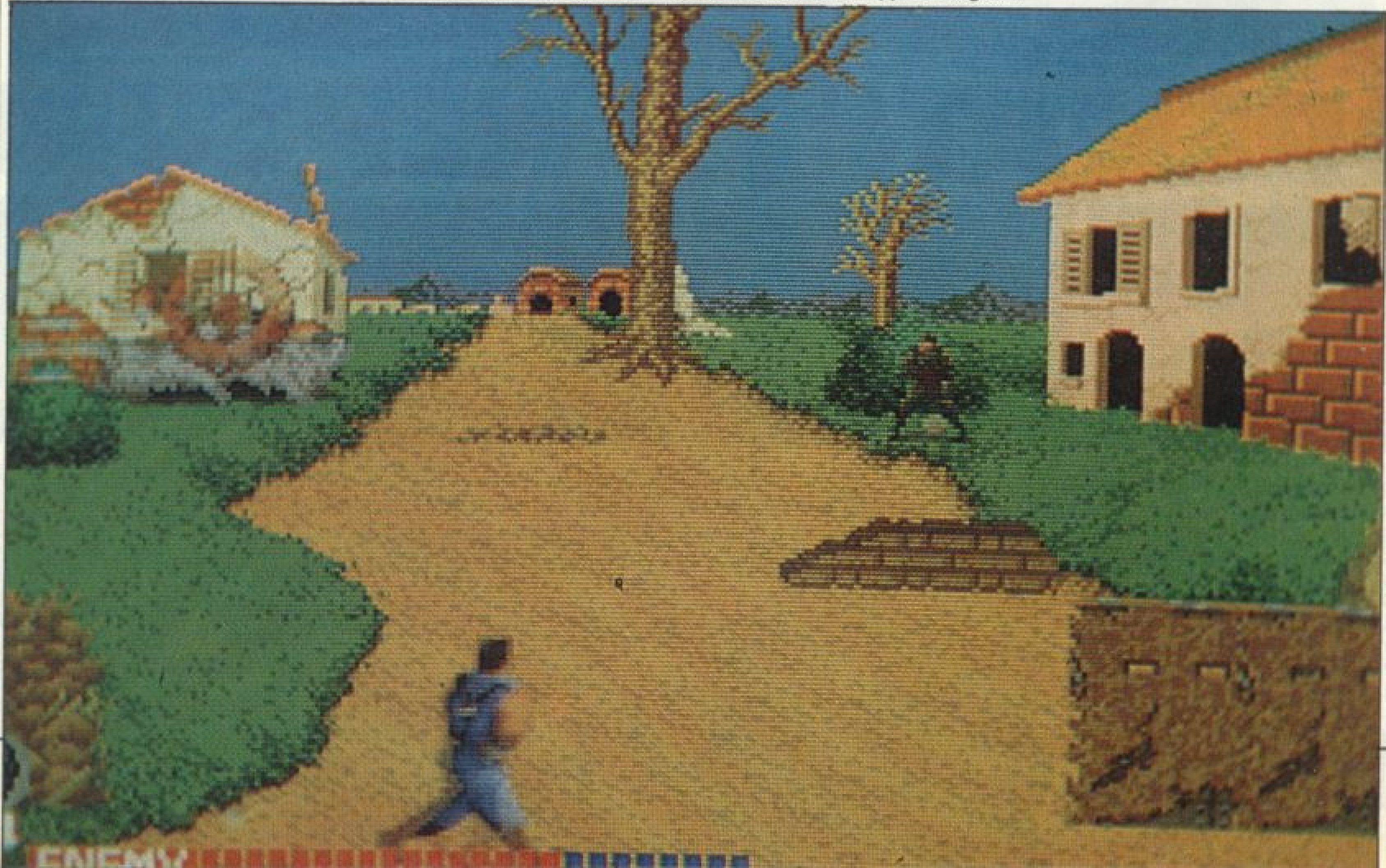
The poor mans *Operation Wolf*, Cabal cobbles together many of the ideas gleaned from Taito's smash coin-op in one mediocre package. The setting is four regions of enemy territory with one or two warriors running around the foreground. Enemy soldiers, tanks, helicopters and planes run on so line them up and sock it to them. Demolishing the buildings sees grenades, machine guns and bonus points thrown at the players – collect them and lay waste to yet more of the evil empire army. For some very odd reason upon completing a level the warriors leap up and down and do the wierdest dance you've ever seen as they run off into the distance. Most peculiar.

On the plus side the presence of a teamwork inducing dual-player mode gives the game a little more appeal and the use of a gunsight makes it satisfying to play - but without good graphics there's not a lot to be said about *Cabal*. It's good for a couple of plays but ultimately it's not a patch on Konami's *Devastators* or *Operation Wolf*.



Shoot them – before they drop the bomb on you

That's you in the foreground, firing like mad at the fast-approaching tank

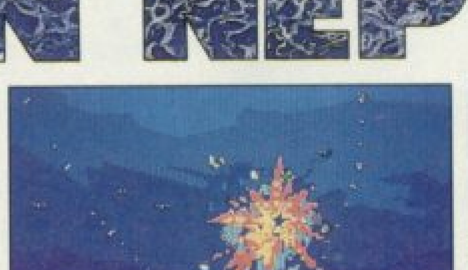


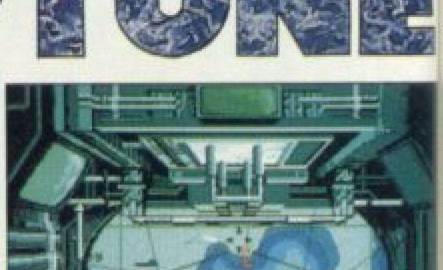


# OPERATION NEPTUNE









The tranquil surface of the Pacific Ocean belies the battle of wits taking place in the world's last unexplored territory. A perfect hiding-place for a determined enemy, or is it? Your jet-bike and technologically advanced bathyscaphe should help, but there are still the enemy bases to destroy, lines of communication to be knocked out, and the natural predators of the deep just waiting for a tasty snack at the first sniff of blood! So check your oxygen supply, and dive, dive, dive...

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# ROB STEEL'S GETTING ADVENTUROUS

## STEEL SHAVINGS

**After wingeing on about the lack of adventures available for review last month, I now find myself relatively inundated with quests to persue. Sod's law being what it is, this month's column has been reduced to a single page; sufficient space to feature only one adventure.**

**To be as fair as possible, I chose the first one to drop through my semi-redundant letter box.**

**Now please excuse me, I have to take Mr Rose out to lunch every day for the next four weeks while we discuss next issue's adventure pagination . . .**



*The wiz mutilates a trying dragon – just like that – but remembers to show mercy in the end*

# THE GRAIL

**Microdeal**
**ATARI ST: £19.95**

After struggling for months to get the hang of *STAC*, Microdeal go and complicate my life to an even greater degree by threatening to release their own adventure writing utility, *Talespin* (£49.95). A different style of generator to *STAC*, it offers totally mouse-controlled games, full-screen graphics and digitised sound. To introduce the utility, Microdeal have released a *Talespin*-created adventure, *The Grail*.

The inhabitants of Kabar are suffering from a strange, deforming disease. The only sure cure is purported to be the Holy Grail. This fount of all good may only be approached by a pure soul, which, although you may not feel deserving, is yours.

Cast as a wizard, you and your not-so-trusty servant, Billot, set out to find the Grail, and with it, attempt to release your homeland from the deadly disease. To succeed, you must face great danger, endure many tests, and risk falling foul of the very plague you're bent on destroying.

You and Billot begin in the enchanted forest on your way to Domino's castle.

Once there, you discover that working on your own is advantageous – you need to lose Billot. When he's safely quaffing ale at the inn (little hint there), you are free to explore the land and, when you find the Grail, converse with it. During your first encounter with the fount of all good, it will probably tell you that you can't utilise its powers yet as you are not pure – you don't possess the three necessary attributes: strength, mercy and charity.

Time to re-explore the land in an attempt to improve yourself – returning to the forest once you have the cure potion is a good idea.

When all three attributes have been earned – show mercy in some places and splatter goblins faces in others – the Grail informs you that although you're doing very well, you must go to the heart of the forest in the world of essences to continue your quest.

*Take heed of the goblin guard's demands – or give him a very hard slap on the face*




## Screen scream

When in the forest, wander around a bit and help any character you may stumble across. A pit that leads to a network of tunnels is not hard to find – if you've got the light, crawl into it. West and North a couple of moves takes you to the Grail, the end of your quest and a threat from Billot that there may be a sequel.

Depicted graphically, screens display an odd and unattractive style. Trees are either tall slim red trunks or bulbous, writhing wood and foliage – characters appear as if painted by a child.

Digitised sounds in the form of screams, groans and laughter abound and momentarily detract from the slow gameplay – music would have been a better use of memory.

Blurb accompanying *The Grail* suggests that completing the game should take some hours. This, I feel, is not because the game is so absorbing, but because of the time taken for every screen or action to load from disk.

I finished the adventure after only a few hours (proving its lack of challenge) and, although each screen is a disappointment, there exists an odd compulsion to carry on and see what happens next.

It should prove interesting to see what a talented writer/artist can do with *Talespin* – the utility has potential and I look forward to casting an adventurous eye over it.

**ATMOSPHERE 45%**
**INTERACTION 40%**
**OVERALL 44%**

# Chuckie Egg





## ARCADE STYLE GAME

from one to four players. Who'd have thought a country farmyard could be so stressful? You must collect the eggs before the nasties get out and eat up all your corn. Watch out for the crazy duck - if she gets out of the cage, you're in real trouble! You must collect all the eggs to proceed to the next screen. Look out for hidden eggs!

## CONTROLS

Select your own keys or joystick. Full instructions included in the program.

## GAME PLAY

The game plays over 4 groups each of 8 screens which become progressively more difficult. Survive all 32 screens and the speed then increases to present even greater challenges. The game will play an indefinite number of levels. There is no limit to the high score table!

This classic computer game is now being released for Amiga, Atari ST

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# PLAY IT ON THE LINE BROTHER



Reach out and shoot someone – that's the latest message from technologists who promise an incredible future of **long-distance games**. Richard Henderson reports on the ISDN system, soon to arrive.

Concentrating frantically on the monitor screen, you lock your sights on the alien battlecruiser ahead. A split second before you unleash plutonium death upon the foul deviant, he veers sharply off to one side with an unexpected burst of speed. Shrieking in horror, you hurtle into a conveniently-placed planetoid. Your Mk II Death Warrior explodes in a cacophony of stereo digital sound as you claw at the controls.

The screen dissolves to show the mirthful face of your opponent, some 3,000 miles from you. 'Die, mutant pig!' he enthuses as you vow retribution. Vanquished, you reach for the OFF switch . . .

It may be the future, but it's not distant. This is just one example of what to expect when the new worldwide telecommunications system, ISDN, finally gets going. The foundations of ISDN (Integrated Services Digital Network) are being laid right now, and when it is completed our lives will be drastically altered.

ISDN provides the technology to transmit voice, data and video, all over a single cable at the same time. It could give us videophones and photo-quality videotex services that make Prestel look about as impressive as a TGM Trash. But ISDN needs some pretty meaty hardware to control it, so British Telecom (BT) are currently installing the backbone of this country's ISDN system – the System X Digital Exchange Network.

BT are replacing all their antiquated analogue telephone exchanges with gleaming, computer-controlled, lemon-scented digital exchanges, connected to each other via high-capacity optical-fibre cables that can handle massive amounts of data.

Currently, around two digital exchanges are installed each day, most of them replacing old-technology systems. And BT have just over 6,000 exchange. altogether, of which some 1,500 are digital, says BT's Senior Technical Press Officer Derek Willson.

Predictably, businesses have been the first to benefit from the improved service, which works with the old-fashioned copper-wire phone lines as well. If they subscribe to BT's digital system, they can now transmit data at 64K per second (sometimes called 64 kilobaud), and enjoy goodies such as high-speed fax and much better voice communications. Calls can be set up much faster than before, the system is less prone to faults, and it's easier to fix if something goes wrong.

## Greater data

That's all very well, but what are the implications for entertainment when all this technology filters into the

home? Well, a lot of modem manufacturers are going to go out of business, for a start. Because the phone network will be fully digital, computer data will no longer have to be converted into analogue form (see box Tele Technology) for transmission over the phone lines – you'll just plug your computer into a telephone socket and go.

The new network will transmit data at much higher speeds. Using an optical fibre cable, a 500,000-entry telephone directory could be transmitted between two computers in under two seconds. Some fear that it could even put cable TV out of business. And ISDN will make 'play-by-modem' games (we won't need modems to play them!) sophisticated beyond our wildest dreams.

Imagine playing an incredibly souped-up, multiuser version of Firebird's classic *Elite* via ISDN. As you launch from the space station, the mainframe computer controlling the game beams a movie-quality launch sequence to your screen. You flash into space.

When you select your destination on the star chart, the mainframe consults its library of data on all the star systems in the game, and sends you a page or two of text and graphics depicting the planet and its inhabitants.

Consulting this, you're suddenly startled to hear laser fire blistering the side of your ship. Screaming like a soul in torment, you switch back to the viewscreen and engage in real-time combat to the death with another player as high-quality digital stereo sound is beamed into your home and bursts all around you . . .

All this is entirely possible with ISDN, and it's just a logical progression from today's games.

Fancy something a little less strenuous? Connect to your local library's computer and browse through the *Encyclopaedia Britannica*, complete with illustrations. This, like the mainframe's data in *Elite*, will be stored on optical disks – a system, similar to CDs, which uses laser beams to store and read huge amounts of data from a small disk.

ISDN will be able to put whole libraries in your living room, and you won't have to worry about running out of space for the drinks cabinet.

Shopping by computer suddenly becomes practical thanks to ISDN. Hi-res pictures or video demonstrations of merchandise can be beamed directly to you, and you can make your selection instantly – no mucking about with catalogues and order forms.

BT aren't keen to quote any prices regarding ISDN equipment or charges, but it seems ISDN will be like any new technology: very expensive at first, but cheaper when it becomes mass-market. Who knows, even Amstrad could get in on the act . . .

## So much, so soon?

Of course, all this won't happen overnight. We won't suddenly wake up one morning to a full ISDN system. For example, videophones – which transmit pictures as well as sound – won't be a familiar sight for a while yet, as only optical fibres can cope with the enormous amounts of data they'd generate.

And though the technology for many ISDN applications exists right now, it won't be commercially available until the network is widespread. Building a videophone is relatively easy. Replacing the planet's telephone system is not.

Yet BT plan to have ISDN installed in most British telephone exchanges by the early Nineties – so it's not too soon to start practising *Elite*.

## STAY ■ AT ■ HOME!

Playing games could become a way of life thanks to ISDN – because the new technology will simply give us more free time.

Think about it: if you could do most of your work at home, transmit it to a central location, and confer on the videophone with your colleagues (or teachers), would you subject yourself to several hours a day of the mental torture that man chooses to call 'commuting'?

Though few jobs could be carried out entirely from the home – 'teleworking' – almost all could be managed so that workers would only have to commute for a few days a week.

And a recent survey by research group Industrial Relations Services showed that 23% of British employees would prefer teleworking.

"Engage in real-time combat as high-quality stereo sound bursts all around you"

## TELE ■ TECHNOLOGY

Traditionally, information has been sent over the telephone system in analogue form – the voice (or data from a modem) is translated into an electrical signal, whose frequency varies as the sound changes.

This system was fine and groovy in the days when the only thing sent over the telephone system was the human voice, but nowadays people want to send data as well, and the analogue system just wasn't designed for it. There's too much noise, and though we can hear a voice through snap, crackle and pop, a computer gets confused.

ISDN offers a solution: digital communication, which handles data just the same way as a computer or a compact disc. Information is broken down into binary form (0s and 1s), giving perfect accuracy and much less risk of interference and distortion than analogue.

This speeds up the transmission of computer data (which is in binary anyway), and gives beautiful digital sound for voice transmission.

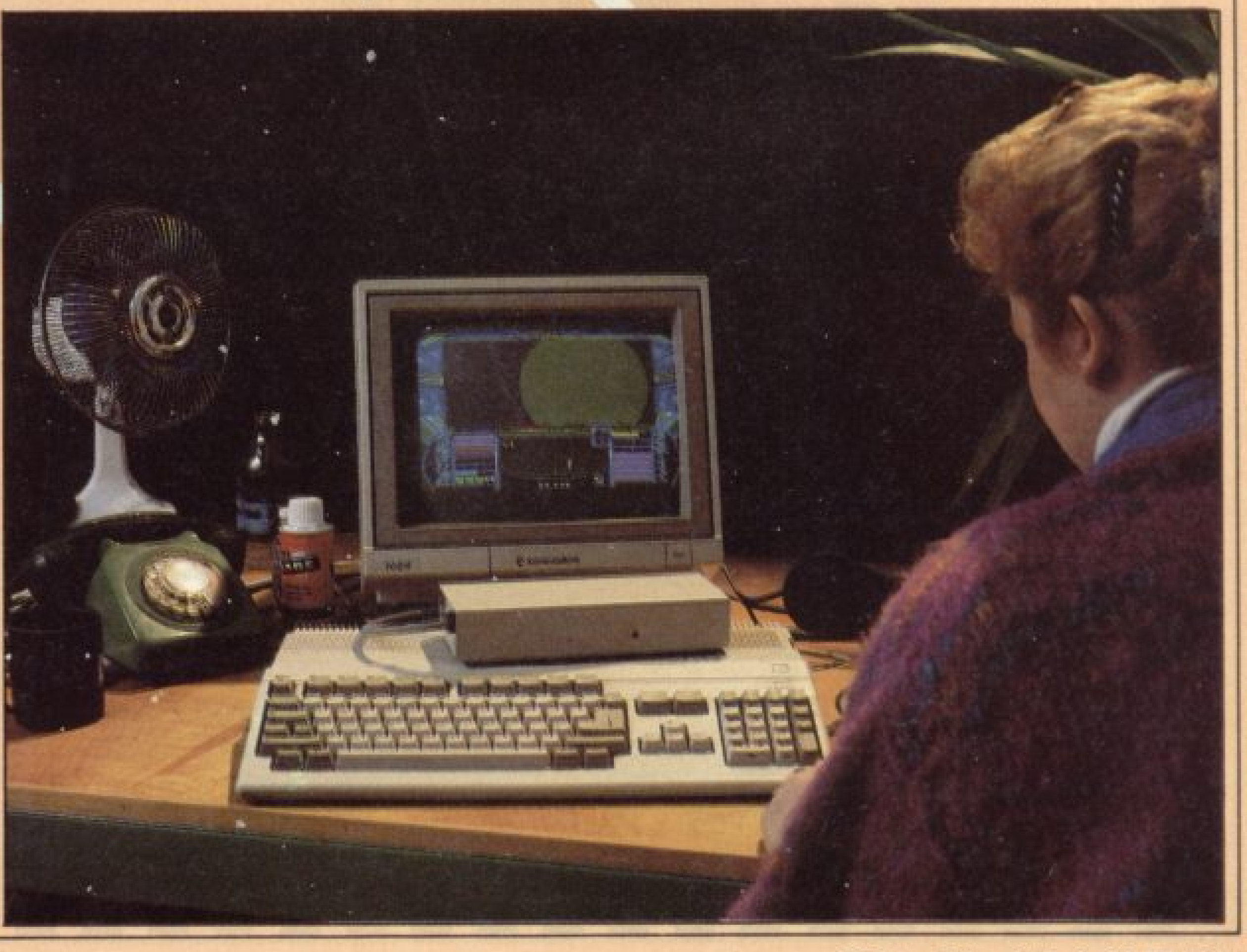
### The light fantastic

The physical medium of transmission is also changing. Telephone cables used to be copper wires, which allowed information to fade or become distorted over long distances (remember how international calls used to sound?).

But now the world's telecommunications companies are getting into trendy optical-fibre cables, made from thin, flexible strands of glass. Digital signals are converted into light signals, fired along the cable, and reconverted to their original form at the receiving end.

The signals hardly fade at all, and because no electrical energy is transmitted, they are completely safe, and immune from electromagnetic interference.

Alongside satellite and microwave transmissions, optical fibres will help to make ISDN a reality.



# VOTE FOR THE BEST IN 1988

## Computer Leisure Awards

**For the first time ever, you will be able to join with the readers of many other British magazines to decide who and what was best in 1988. Awards will be made to software producers resulting from your voting through, this, your own magazine, for what you considered to be the best games you have played on your computer during the past year.**

**Many other magazines are carrying this voting form. It means the results will truly be democratic, and therefore really mean a lot to those who receive them.**

**The votes will be collated by an independent company, to whom you should post your voting form, and the awards will be presented at the Computer Leisure Industry's 'get together' — Computer Arena — in March 1989.**

**So, simply fill-in the voting form below, cut it out (or photocopy it) and send it to:**

*GAMES OF THE YEAR*
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*SOLUTIONS PR*
*2 WELLINGTONIA COURT*
*VARNDEAN ROAD*
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## COMPUTER LEISURE AWARDS 1988 VOTING FORM

Closing date 25th Feb '89

1) Please tick the computer format you are voting for:

- AMIGA ☐
- AMSTRAD CPC ☐
- ELECTRON ☐
- COMMODORE 64/128 ☐
- PC COMPATIBLES ☐
- ATARI ST ☐
- SPECTRUM ☐

3) Please state what you consider to be the **BEST GAME OVERALL** of 1988:

4) Which Software House do you choose as being the most consistent in producing high quality computer games during 1988:

2) Please name your choice of best game (from the format ticked above) of 1988:

**1. Best ARCADE game**

**2. Best ADVENTURE game**

**3. Best STRATEGY/WAR game**

**4. Best MUSIC with game**

**5. Best USE OF GRAPHICS**

**Name** ..........................................

**Address** ..........................................

..........................................

.......................... **Postcode** ..........................

# ROBIN HOGG'S PLAYING TIPS

## YOUR GUIDE TO BETTER GAMING

First off this month are a couple of tips to help you get through the Sanctum of Drax in Palace's hack-'em-up sequel to *Barbarian*

### ☆ BARBARIAN 2
(C64)

■ **THE LIVING IDOL**. Use acid puddles to dodge bolts as they don't drain you of energy. To progress reach Idol and run at it so you push it off screen. Duck high bolts and kick low bolts




■ **THE GREAT DEMON**. Move towards the demon so that he starts a continuous punching movement. Just as he has his hand almost outstretched, do a flying neck chop, which should hit him. This way he will hit you back, tit for tat, wheras any other time or position will usually result in a him roasting your head. Don't forget to jump the hole.

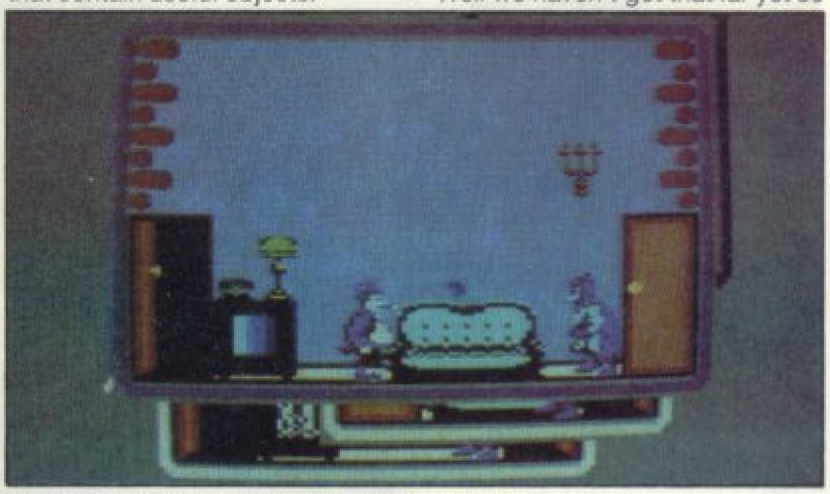
■ **DRAX**. Move in front of the corpse on the wall covering it as much as possible. When his magic is about to stop do a flying neck chop - each time you misjudge it you lose half your current energy. If you succeed stand back and watch the ending.

### ☆STAR TREK
(C64)

■ Note the locations of neutral, federation zones where you can get repairs, weapons, and energy.

■ Note the location of orbital discontinuum - perrien (64.31.70 - Q Zone) - on some life supporting planets there are Guardians of Knowledge.

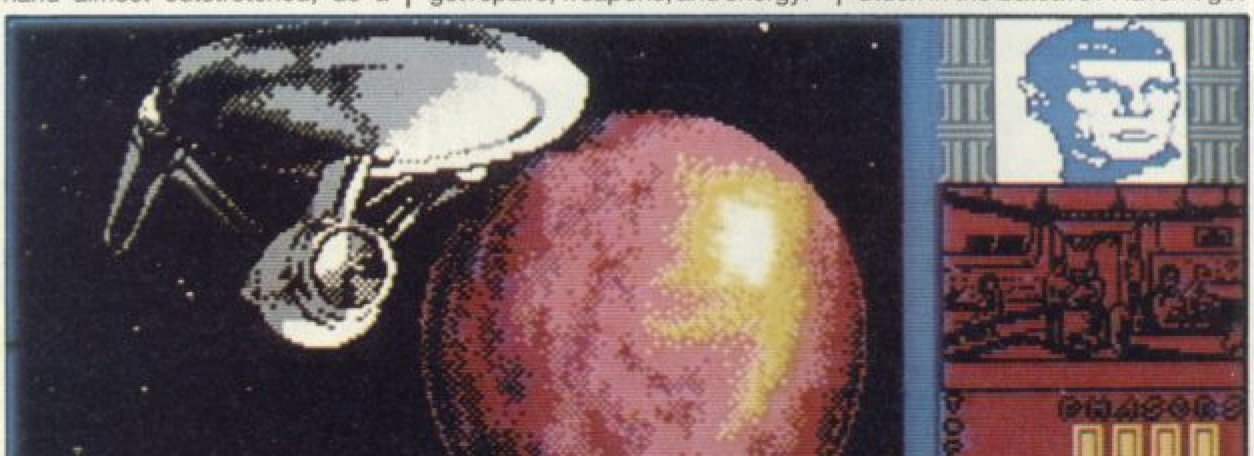
■ Use Spock to mind meld with them to disclose data on systems that contain useful objects.



■ The Hot shot device for greater shot power to be found on Cernial (69.19.60).

■ The Cerenkov Crystal at Xuram (56.29.46) reduces drain on engines.

■ When beaming down to planets always take three crew members to safeguard against dangers.




### ☆BATMAN
(Spectrum/C64)

Stuck in the Batcave? Haven't got a clue how to save the world? Never mind all super heroes have to start somewhere. So TGM ever willing to help a reader in need has got the complete (well 99% complete) solution to the Penguin game. Stuck in the Joker game? Well we haven't got that far yet so you'll just have to wait.

■ First pick up *all* the objects in the Batcave. In the room in the Batcave that contains broken machines use the tool. Insert the Batdisk into the disk drive. Now go outside and keep going right until you come to a ladder. Climb this. You should find some rope. Collect this. Once on the roof keep going right until you find a locked door. Use the Picklock function to unlock it. Through the door is a lift key. Go to the lift and use this. While you are exploring you will come across a Games Disk and a dart, take these. Use the rope inside the room called Two half's. Now climb up the rope and collect the magnet and use it. Now throw the dart at the picture of Batman on the wall and a pass will be revealed. Take this. Go back to the lift. Go up and then go outside onto the roof. Go right until you find a ladder. Climb down this. Now proceed right until you find another ladder go up this and keep bearing right until you come to a dead end. Here you should find a torch. Take it. Now climb back down the ladder and go right until you find the mansion. Do not enter, yet.

■ Proceed to the screen just past the mansion and collect the door key. Now return to the mansion and use the pass. Inside it is dark so it's time to use torch. Now explore the mansion and find the room with a TV and Video. Put the tape into the video and a 4 should

PRESS ANY KEY

appear on the TV screen. In another room there is a flight of stairs. Go up these and unlock the door at the top with the door key. On this level there is a door labelled 3 steps to Hell. Go through this and turn to the right. Eventually you will come to a room full of computers. Now just use the disk to complete the first game.

☆**MENACE**
(Amiga)
■ While playing the game get a friend to type in **XR3ITURBONUTTERBASTARD** and you will be given a full quota of weapons as well as shield points. This can be repeated at any time during the game to restock your arsenal.




☆**HAWKEYE**
(C64)
■ Type in **VALSSPELER** on the opening screen and the Thalamus logo will flash. You now have infinite lives.

☆**THUNDER BLADE**
(ST)
■ Type in **CRASH** on the title screen. From now on pressing the UNDO key will take you straight on to the next level.

☆**VETERAN**
(ST)
■ Here's a quick one. Simply press the HELP key to progress to the next level. Easy when you know how.

☆**DALEY THOMPSON'S OLYMPIC CHALLENGE**
(Spectrum)
■ Before you do the training, select the Kempston joystick (if you've got one don't use it) and start the game off. You should score 60 in the dumbells, 190 in the sit ups and 190 in the squats. After this you must redefine the keys, press 2, 3, or 4 on the 128K and load in day 1 and do the same on the 48K.

☆**MICKEY MOUSE**
(Spectrum)
Here are some hints on the sub games courtesy of Colin Macdonald from Dundee.

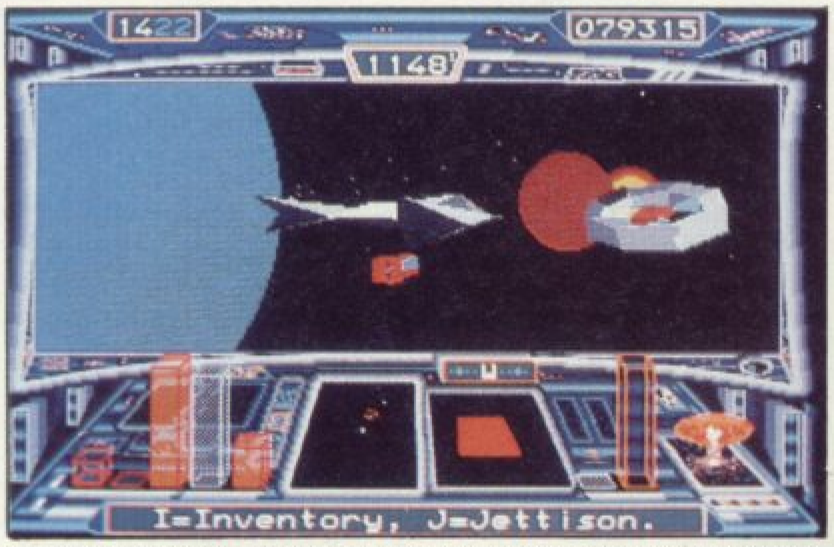



■ **PUDDLE MAZE**. Don't collect the heart when you still have all three lives. To get rid of the skull, collect it with the power pack on (Mickey flickers). To save go right three times, down once, right three, down one etc.
■ **BUBBLE MACHINE**. Drop a hammer just before you are above the bubble and if you miss, one after. Then you are guaranteed to hit it. If you are ever wanting lots of points then wait until the tube is almost empty and go about killing ghosts.
■ **PUMP ROOM**. Wait at the right hand side until you are safe to go up the first ladder. Then go up it, knock in the two corks, go up then right, put in the cork, wait until it's safe then quickly go along. Put in the corks, then if the force field has gone go right and hit the big monster. If it hasn't, walk left and you will fall down.
■ **DRIPPING TAPS**. Try not to get stuck at the bottom. If you are at the top you can get down no matter what way the lift is going. If it is going up, step on it and wait, then you fall down to the next level. Often the ghosts can't go through the lifts but sometimes – well it doesn't bare thinking about.

☆**STARGLIDER 2**
(Amiga/ST)
■ As soon as you start the game, bring the ICARUS to a complete halt, select floating sight then pause the game and type **WERE ON A MISSION FROM GOD** (including the spaces) and press 1. If you've done everything correctly, the shield, laser and fuel displays will drop and you're rewarded with infinite fuel, shield and laser power. Now if you press K you will get a full complement of missiles, bombs, an energy cube launcher and even the neutron bomb!

☆**LAST NINJA 2**
(C64)
Completing System 3's epic blockbuster is no easy task. So here are the solutions to the first four levels just to get you on your way.
■ **LEVEL 1 - CENTRAL PARK**. Go through the curtain and punch the flashing yellow box to reveal a trapdoor on the stage on the first screen. Drop through the trapdoor and you will be under the stage where you should find (bottom left corner) a key. Take this. The nunchukka is in two parts, both of which are in separate ladies toilets. Just enter each loo and use the pick up action to collect them. Pick up the hamburger on the hamburger stand and use it to increase your energy. There are some shurikens in a box between two benches on the screen before the juggler. The juggler can be passed by somersaulting. Now get the map on the screen after the juggler. Climb up the trellis on the screen with the map, then cross over to the next screen and somersault across the gaps to find the staff. Remember to climb down backwards. Use the key to open the gate, then wait for the boat to drift near you on the next screen and somersault onto it. When it stops moving, somersault onto the other bank. Dodge the bees and take the right hand path then somersault onto the next screen. Try to land on the island, then push at the boat with your staff and jump back onto the bee screen. This time take the other path and you will end up by another stretch of river bank with the boat from the island floating past. Jump onto the boat then jump to the other side, and you can load the next section of the game.
■ **LEVEL 2 – THE STREETS**. Only cross the roads when the lights are in your favour or you'll run over by a motorbike. Enter the workman's hut and 'pick up' and you should collect a manhole key. When you enter the screen with the flashing door, kill the thug and kick down the door. Enter the martial arts shop, beat up the shopkeeper and collect the sword from the wall. Find the drunk and take the bottle from him. Take the hotdog from the hotdog stand to increase your energy. Beware of the man leaning out of the window – he throws flower pots at you. Exit this level by using the key to open the manhole on the path, and drop through it.
■ **LEVEL 3 – THE SEWERS**. Walk through the first three rooms, then take the right hand exit and collect the key. Go back into the last room






and jump the gap. On the next screen, slowly walk forward until you see a spider fall. Quickly follow it and exit the screen. On the next screen, use the key to open the grate and drop down. Don't go through the blue door. When you come to a set of three doors, take the middle one, then follow the path until you come to some more doors. This time take the one farthest from you. On the next screen, don't go through any of the doors or you'll die. Instead, jump the rats and exit via the path. Keep going until you find some more doors and go through the door nearest to you. On the next screen, kill the girl then, holding the bottle, walk into the torch on the wall until the wick in the bottle turns red. Now kill the alligator by throwing the bottle at it and go through the door to the next level.

■ **LEVEL 4 – THE BASEMENT**. Go through the maze of boxes on the right of the start screen and then empty your hands and go to the next screen. Climb up the ladder to the catwalk and go left, killing the man and collecting the credit card. When you get to the end of the catwalk, go through the door and pick up a bowl of dog food. Once you've done that, you can go back along the catwalk and down the ladder. Now take the right hand exit and follow the path until you get to the rail cars. Wait for one to pass you and then somersault over the lines. Keep going along this path and you should come to another set of lines. These are electrified so jump with care! Pick up the hamburger and follow the path around to the stacked crates. Walk onto the crate nearest the table and somersault forward onto the next box. Now turn and jump onto the box on the left of the screen, face right and somersault onto the little box then onto the other side. Moving on from there, you should find yourself in a room filled with bottles. Go straight down, kill the blue man on the next screen, then on the following screen you should find a flashing white object in a box. Hold the chicken and collect the box (this poisons the chicken). Go back to the bottle room, take the exit on the right and you should be face to face with a hungry panther. Hold the chicken and walk forward slowly until it sits up. Take one more step forward and use the pick up method to lure the panther towards you. It will then take the chicken, eat it and die. Go past the dead panther to the next screen and use the credit card on the white box to enter the lift and go up to the next level.

☆ **R-TYPE**
(all formats)

■ When collecting power-ups for the drone, stay with the reflecting lasers as not only do they cover almost all the playing area but they cut through the marauding aliens like a knife through butter.

■ Use the drone in the most offensive manner possible. Ram enemies with it, keep it in front to absorb bullets and generally use it to its maximum potential – you may not have it for long on the later levels. Watch out for incoming mega-laser bolts fired by mother aliens, the R-Type isn't that powerful!






■ **LEVEL 1**. Providing you stay back, keep calm and upgrade the drone to either three way or reflecting lasers this level should be a piece of cake. You only have to watch out for the *Alien*-esque nasties that sneak from behind and the big transformer robots. The red alien monster is a doddle providing you're armed up – just throw the drone into its guts and keep firing. With the hazard of the rotating guns, get in fast, destroy the blue gun and get out fast – they have a habit of launching bullets as they die.

■ **LEVEL 2**. The worst thing about this level is the sheer number of tadpole aliens (what else do they look like then?) to avoid about halfway through. Rather than throw the drone forward into the throng, keep it attached and reflect those lasers all around. Go around the first end-level worm in a square anti-clockwise pattern and avoid it by hiding near the bottom left corner of the many-tentacled, mother alien. Then scarper over to a position just above the alien's eye and blast away. Just keep *real* low and blast at the eye, moving up to avoid the third worm that comes along

■ **LEVEL 3**. This level is devoted to the infamous 'Mega-Mothership'. Just stay low, hug the ground and keep back using the R-Type to get rid of the lower side gun emplacements. Don't try to move forward when you see a gap, try to keep back in the first underside gap and keep *low* (minute taps to the joystick should do). Move forward at the last minute to the next gap and immediately after that move forward again, try and bring the drone around to fix to the back of your craft. Eliminate the guns and throw it into the heart of the spaceship to kill it once and for all.

☆ **AFTER BURNER**
(ST)
■ Just keep performing 360-degree rolls all the way to avoid nearly everything – watch out for tail chasing missiles though as they give very little warning of their approach.

(Spectrum)
■ Fly the F-14 at its lowest height. This keeps your missile sight at just the right level to immediatly lock-on to most incoming aircraft.

■ In the canyons just slam the F-14 down onto the deck and keep firing – like the coin-op just tap the joystick left and right thus making minute movements and getting you through it the rocky caverns.

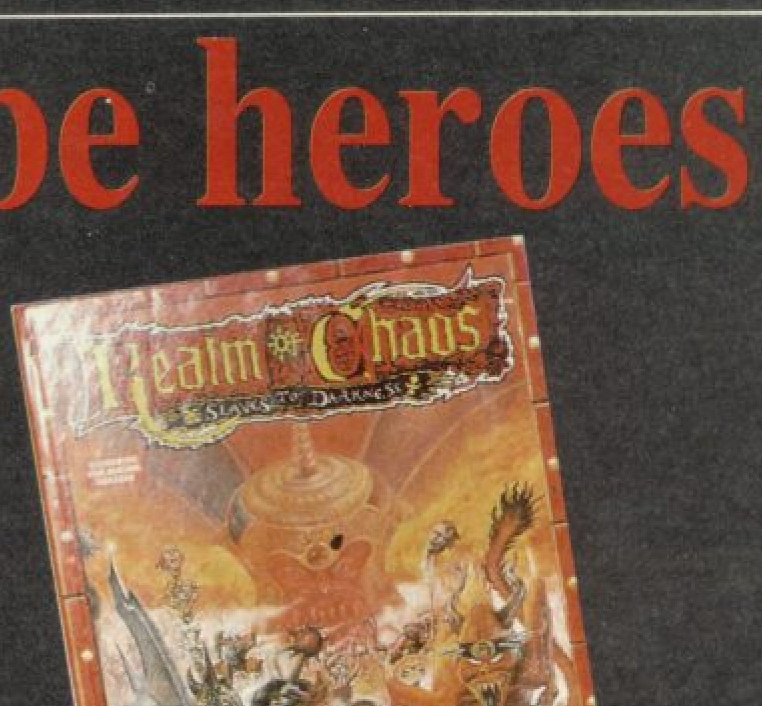
That just about raps it up for this month. If you've got any maps, cheats or tips then send them to PLAYING TIPS at the usual address: **THE GAMES MACHINE, *PO BOX 10, Ludlow, Shropshire, SY8 1DB.*** £40 worth of software could be yours.

# We could be heroes

## CHAMPIONS

**Roleplaying Rules**
**Hero Games, £6.95**

The tentacles of evil are spreading throughout the world – super villains with monstrous powers, subversive espionage organisations and giant insane robot sea monsters are just some of the terrors threatening civilisation. In *Champions* you are the only person who can stop them, so don your cape, put your underpants on the wrong side of your trousers and prepare for battle!




The world of comic book superheroes and arch villains is a natural setting for a role-playing game. However, it's no easy job producing a superhero game which incorporates a whole range of super powers from super-strength to flight, X-ray vision to invunerability to bullets in a logical rule framework that is still simple enough to allow action packed gameplay. *Champions* does all this and more in a single, comprehensive rulebook. Based on the same rule system as *Fantasy Hero and Justice Inc.* the game is easy to learn and play and capable of supporting just about every aspect of the superhero genre within it.

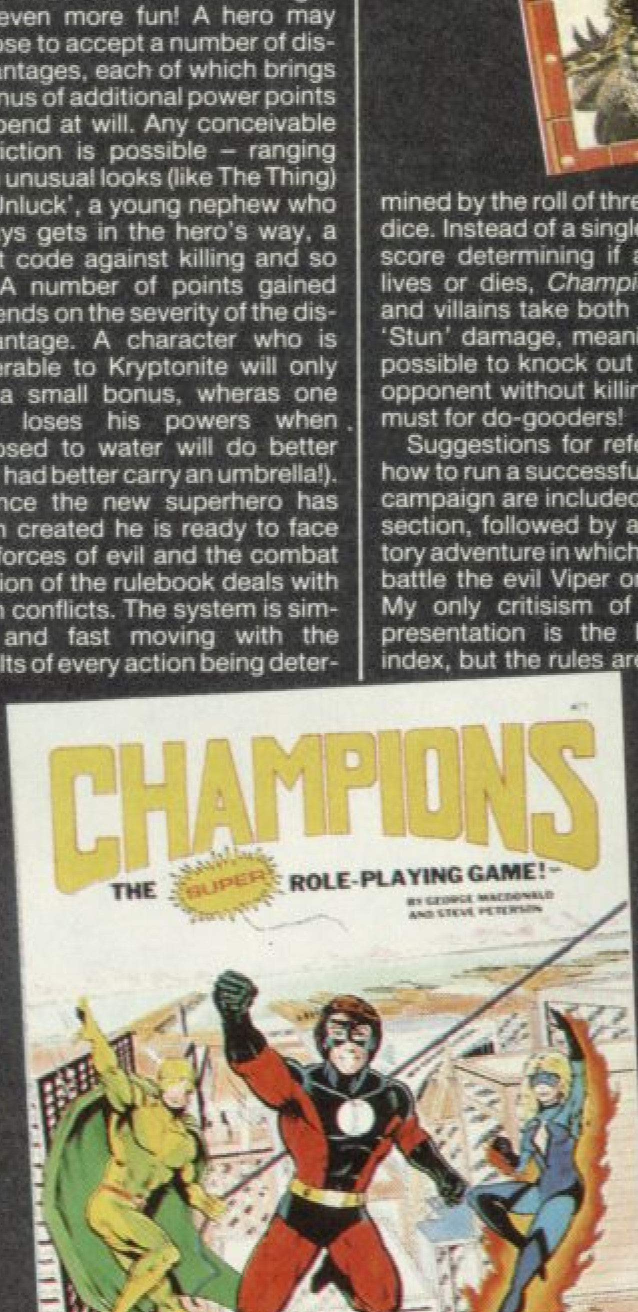
The *Champions* rules are a model of clarity. An introductory section provides an outline of what role-playing in general is all about and then goes into detail about the combat system to the extent that you're soon itching to begin the game.

The first requirement is the creation of a superhero, in the form of a 50 page character generation system. It's here that the *Hero* system rules really come into their own. Unlike most RPG's, players don't roll dice to determine what their character is like. Instead they begin with an idea of the type of character that they would enjoy playing – perhaps a superhero from their favourite comic strip, perhaps an invention of their own – and design a character to fit this conception. A player is allowed 100 'power points' to purchase powers and abilities for the new hero. Thus a simple ability like 'Instant Change' – which allows a superhero to change from secret identity to superhero garb without all that tedious mucking around in phone boxes – costs a knock-down five power points, whilst 'Invisibility' will set a hero back 20 points.

For a superhero capable of taking on the most dastardly villains in the universe, 100 power points is just not enough. Fortunately for mankinds future survival players can gain more points with which to increase their characters powers by accepting disadvantages and limitations. Limitations apply to the use of a particular power – for instance the hero might only be able to fly during daylight hours, or an aquatic villain might be able to use a super-strong bolt of energy only if under water. Disadvantages are even more fun! A hero may choose to accept a number of disadvantages, each of which brings a bonus of additional power points to spend at will. Any conceivable restriction is possible – ranging from unusual looks (like The Thing) to 'Unluck', a young nephew who always gets in the hero's way, a strict code against killing and so on. A number of points gained depends on the severity of the disadvantage. A character who is vunerable to Kryptonite will only get a small bonus, wheras one who loses his powers when exposed to water will do better (and had better carry an umbrella!).

Once the new superhero has been created he is ready to face the forces of evil and the combat section of the rulebook deals with such conflicts. The system is simple and fast moving with the results of every action being determined by the roll of three six-sided dice. Instead of a single 'Hit Point' score determining if a character lives or dies, *Champions* heroes and villains take both 'Body' and 'Stun' damage, meaning that it's possible to knock out or stun the opponent without killing them – a must for do-gooders!

Suggestions for referees as to how to run a successful superhero campaign are included in the next section, followed by an introductory adventure in which the players battle the evil Viper organisation. My only critisism of the whole presentation is the lack of an index, but the rules are laid out in such a sensible order that it's generally not difficult to locate a particular item.




A wide range of add-on material is available for *Champions*, both pre-written adventures and supplements detailing extensions to the system. But one of the best aspects of this type of game is that you don't need anything more than the rulebook and a little imagination to start playing a fast moving game where the future of the world lies in your hands!

Now a quick look at *Slaves to Darkness* (hardback, £14.99) the first of two *Realms of Chaos* supplements from Games Workshops popular *Warhammer* series. This book introduces the Chaos gods Slaanesh and Khorne, detailing their horific powers and describing their demonic servants with exhaustive lists of magic, chaos mutations and so on. Extensive army lists for the Chaos hordes and their enemies are included, making the book of particular interest for players used to the *Warhammer 40000* fantasy battle rules. There's also a figure painting guide to bring the monstrosities into three-dimensional reality. Lavishly illustrated with hundreds of disturbing pictures, every page drips with nastiness.

For Avalon Hill's *RuneQuest* system comes the long awaited *Glorantha* boxed set. Though a little pricey at £16.50 this supplement is full of detail that will delight anyone who's already visited Greg Stafford's fantasy world. Detailing the history, geography and culture of Glorantha this pack provides a wonderful chance to adventure in a beautifully detailed fantasy world as it prepares for its cataclysmic conflict.

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# GETTING IT ALL TOGETHER

Amiga users go musical too in this month's report on the latest **software sounds**. Jon Bates examines yet another sequencer for ST and Amiga, and an ST composing package; from New York, Marshal M Rosenthal listens to the goodies at a MIDI gathering.

## MidiSoft Studio: Advanced Edition

Yes, it's yet another new sequencing program that's only just out in the States, and shortly it'll be over here. But what has *MidiSoft Studio: Advanced Edition* got over the others? Well, obviously the formula to be applied is 'price versus features', and as a medium-priced package it comes out of this quite well.

*MidiSoft Studio: Advanced Edition* is a 64-track sequencer that uses the MIDI ports on the ST only. (I say this because of late it has become the trend to have 'export' MIDI channels – that is, a parallel set or sets of all 16 channels on a bolt-on MIDI interface.) Essentially it follows the tried and tested real-time recording idea, though it does have a reasonable step-time recording feature.

The main screen display has the tracks listed from top to bottom down the left-hand half. It copes with 12 tracks on display at a time, and you can scroll through them either singly or in gulps of a dozen at a time. (But 12 goes into 64 just 5⅓ times, so you'll need that single track scroll mode . . . ) Across the top of the track display are the definitions that apply to that track.

DESCRIPTION – that's where you write your own note about the track. MODE: this can be set to RECORD, PLAY, MUTE, SOLO or CLEAN. Then you have the MIDI channel number assigned to it, the PROGRAM change number it is set to (the voice on the synthesizer or whatever), the volume level and the octave. Pretty comprehensive, and all very easily accessible by clicking with the mouse, so that you can alter the settings even when PLAYBACK or RECORD mode is running; the usual rule applies of the left mouse button decreasing values and the right button increasing them.

On the right-hand side of the screen is more information regarding the tempo, bar numbers, whether or not the metronome is audible, etc. And it is usually in this area that the drop-down windows appear.

The bottom of the screen has the by now obligatory 'cassette buttons'. That is, PLAY RECORD, REWIND, FAST FORWARD, PAUSE and STOP. A pair of flashing quavers indicate whether any MIDI data is being received and sent – this signal can be turned on and off, and the default is on.

The features on the drop-down menus are fairly comprehensive. One that caught my attention was the ability to format a disk while the program is running. Having more than once been in the situation where you have loads of music on the program, the little window appears that says 'disk full', and you can't find a formatted disk anywhere, I think this feature should be put into the statutes of all programmers everywhere.

### Mouse on steroids?

I also quite like the FAST MOUSE option; once I got used to this, it made the ordinary *GEM* mouse seem like a Valium-ridden geriatric compared with its steroid-enhanced offspring. Not a specifically musical feature, this, but nevertheless it makes for a comfortable working environment.

MIDI data can be filtered in terms of systems exclusive and aftertouch, auto rewind and quantize on record, and you can save the current screen set-up – though I would have thought this should be a default rather than an option.

*MidiSoft Studio: Advanced Edition* can cut and paste tracks and parts of tracks with consummate ease, calling the section selected for treatment a 'region'. Tracks themselves can be merged, rechannelled, copied and shifted forward or back and the regions can be subject to insert delete, paste, erase, transpose, quantize, and altering the scale velocity.

That last is quite a smart feature, as it will alter the attack velocity by a percentage value, which is a little easier than the usual method of scaling from 0 to 127.

Each region is defined by the bar, beat number and the divisions of a beat which they insist on calling 'ticks', a term which I find somewhat idiotic but several software houses seem to favour.

Then there's editing. No graphic display here, but rather a list of the events as they happen overlaid down the left-hand side of the screen. Scrolling through them causes each event, be it note, pitchbend or program change etc, to happen. Any event selected for special attention is plucked out and the information displayed above the window, making it easier to alter details.

You can also play the selected track and the highlight bar rolls through the events, making it quite easy to follow things as they occur. Though I'm very used to working on both graphic and notational editing, I didn't find this too much of a pain to get to grips with, and if you go wrong you can always cancel your editing and return to the previous unedited state. The track events can be printed out if you wish to study them further.

But the quantize page is quite basic in its approach. Two options called CHANGE LOCATION and CHANGE DURATION are on offer. These, I think, are the program's terms for note-on quantize and note length quantize. Though the actual way of quantizing is easy – just flick through the note values – it's fairly limited in that for a few subroutines more you could have the options of fixed note values (essential for drum machines), a CAPTURE feature that allows a certain percentage of errors to humanise the track, and quantization of the velocity and aftertouch.

I know that the line of development costs has to be drawn somewhere, but since the editing features are very comprehensive the quantize features,

which are used by sequencer owners probably more than any other, should also be as rich in their variety.

In conclusion, *MidiSoft Studio: Advanced Edition* has quite a lot going for it at £159. Apart from the rather scant, though easy to use, quantization features, I found I could get along with it rather well and it's certainly competing well in the crowded field.

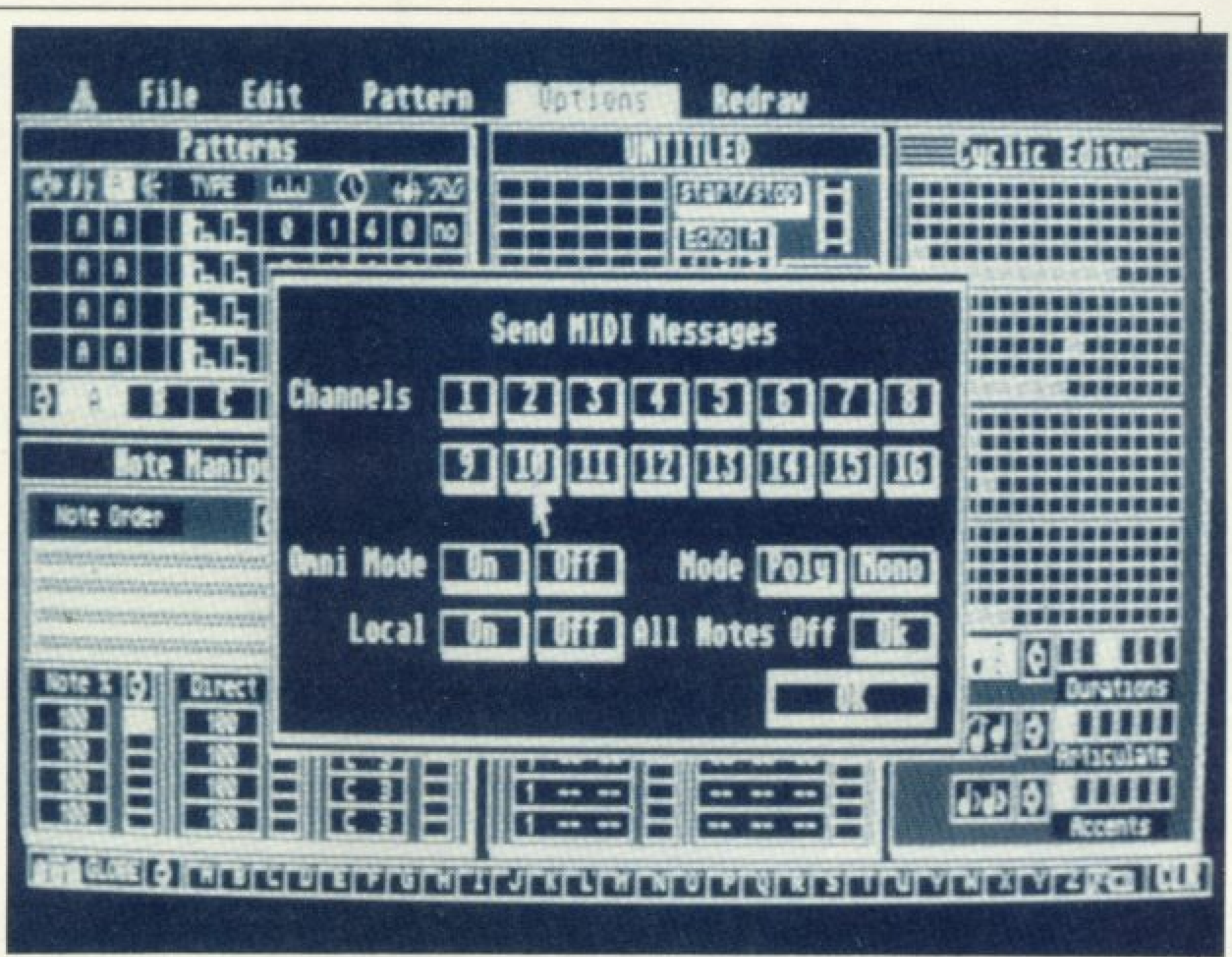
*MidiSoft Studio: Advanced Edition* is available from Protobase, ☎ (0603) 663050.

## M

Ever fancied yourself as a creator of endless, timeless, shifting patterns of sound? Be your own Jean-Michel Jarre in the privacy of your bedroom, thanks to a program called *M*. It's an absolute boon for old (and new) hippie types who are heavily into the concept of repeating patterns that shift around endlessly and change. And though this might all sound like mystic and wonderful cosmological rubbish – in fact, the program is a very well-organised, well-presented and cleverly worked-out 'interactive composing tool', to quote from the manual.

The nice thing about it is that even an absolute musical illiterate can come up with something that sounds like something (cue for a New Age record . . . ).

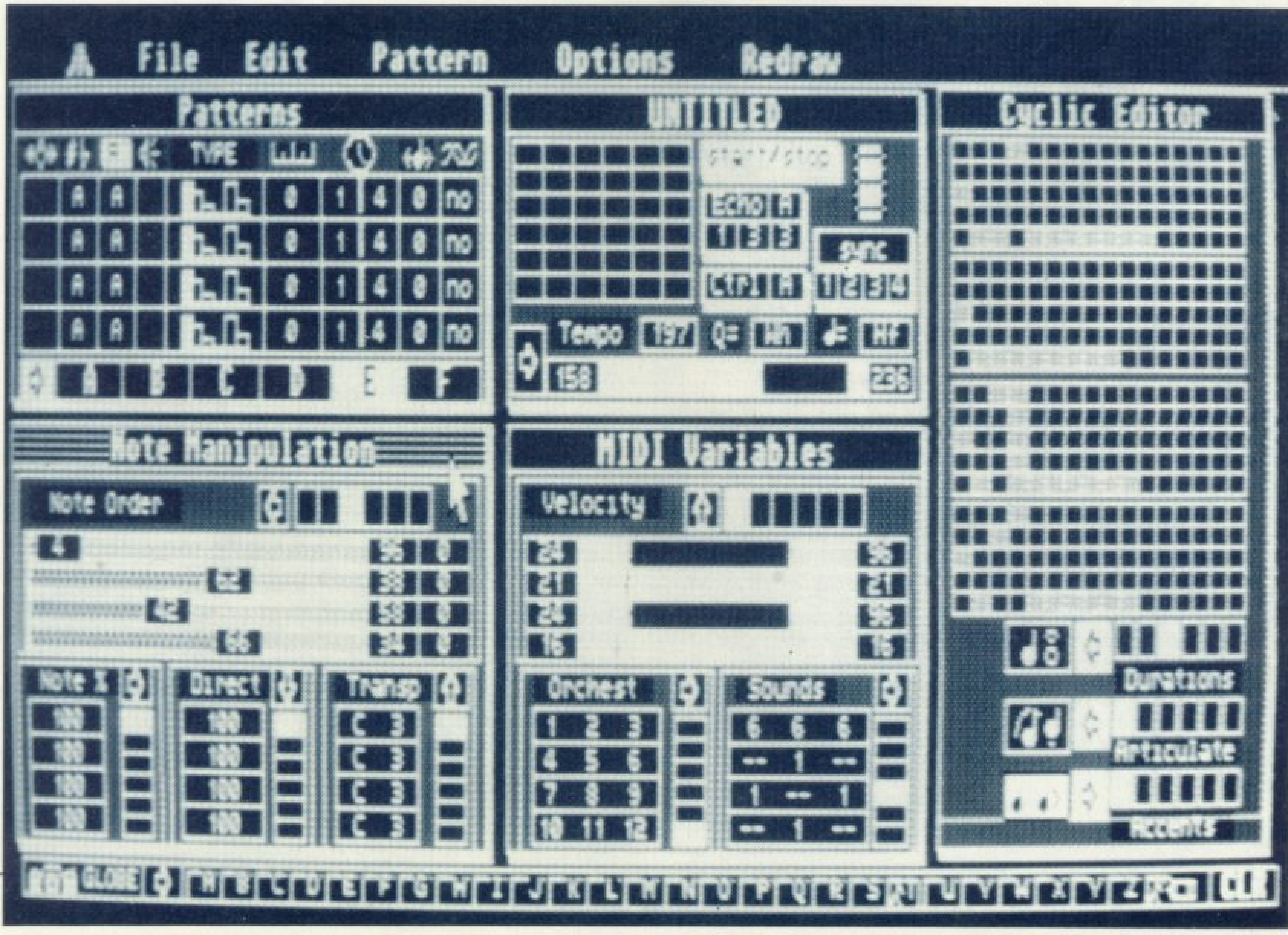
But *M* works like no other program I have seen. The basic principle is that you enter notes, either in real or step time. These are held within the program and can then be subject to any degree of random playing back, governed by various screen areas.




*For that Philip Glass effect: outputting* M *music as MIDI data*

Let's say you start off with three notes picked at random. Now these can be subject to speed variance – either in big steps or by altering the tempo. But that's only the start, because you can set parameters within which you can vary the speed manually in an active area of the screen.

The program is now cycling your three notes like mad. So let's alter the order that they play back in. Fairly basic, you might think – but not with this program. For you can choose to



have them in degrees of randomness: the percentage of notes as you played them, the percentage of notes played backwards, and the percentage of notes that are actually allowed through.

Get the picture? Well, if you don't, the program certainly will, because across the bottom of the screen is the 'snapshot' mode complete with a camera icon. This, coupled with the alpha keys, lets you 'photograph' any screen setting you may happen to like.

And you manipulate the playback as it's occurring, so you hear the results straight away.

### Three-note wonder

Still staying with our three random notes, you move over to the 'cyclic editor'. This selection of grids (the program seems to have lots of grids) allows you to pick just how many notes will be cycled, and just how the duration of those notes can be altered.

It will also 'articulate', which in effect means phrasing some of the notes together, the basic idea being that the more of the grid you fill in the more it manipulates the note stream.

And *M* comes into three dimensions if you have a synth or instrument that is velocity-sensing, as you can command it to put in accents, also subject to some controlled randomness. Finally, if all else fails, transpose the pattern and tell the program to change the sound.

From this seemingly aimless selection of variations on a theme, something resembling an overall scheme emerges. From the three notes you can generate quite a wide variety of sounds, and build them into something resembling a composition.

Of course, *M* is capable of recording a lot more than just three notes. In fact you can record a whole load of patterns in different ways: step time, real time, and a special drum record mode. *M* will also accept the standard MIDI files which many ordinary sequences download to – the musical equivalent of ASCII, the 'language' word processors use to store their text files.

In practice, *M* is a program that requires a long time to get into, and I suspect you'd find it very hard to get bored – that is, unless you're into composing straight chart material. Once you start with more than one pattern, it becomes a whole new ball game as they interweave and overlap. In playback, by jumping from one 'snapshot' to another, you can change the piece as you go along, and you can of course record a new pattern while your others are chugging along.

I found out that the best way was, in effect, to have some sort of constant pattern underneath everything while the others whizzed about over the top.

**"MidiSoft Studio follows the tried and tested real-time recording idea – and comes out well"**

So you might put in a bass pattern in real time in pattern number 1, step-time some chords over it for pattern 2, and then complete 3 and 4 with some fills in and melodic phrases.

The results at first are an almighty row, but since the machine can't think for itself you begin to realise that control and finesse are needed to get some reasonable results. Yet the nice thing about *M* is that it is geared for the musician and nonmusician alike. And I am certain that drum-machine aficionados will enjoy the drum mode – starting with a basic pattern, and then cycling patterns over the top so that it resembles the Lost Drumming Tribe of the Limpopo in concert.

It will be helpful, as I mentioned above, to have a velocity-sensing synth or even better a multitimbral tone module.

Though *M* may not be in everybody's price range, if you feel daunted by a sequencer or you feel at a loss for compositions in the Jarre/ Tangerine Dream/ Tubular Bells/ Philip Glass style (not to mention Terry Riley and Steve Reich), this is a very worthwhile investment. Early versions of *M* had a few niggly reviews owing to bugs and flaws, but I can report that mine didn't crash once.

*M* is available for ST (£185), Amiga (£195) and Apple Macintosh (£225) from MCM, *9 Hatton Street, London NW8 8PR* ☎ (01) 724-4104.

# BIG APPLE SOUNDS

Exciting events happen all the time here in New York, and the other week they were jammed almost back to back. One was the appearance of Soviet leader Mikhail Gorbachov, the other was the opening of the MIDI-EXPO at the Sheraton Centre. We'll leave Gorby to Fleet Street, but let's take a walk through some of the more interesting aisles of this musical extravaganza.

Keyboard consoles are the mainstay of performance, and one of the hottest is Korg's M1, which features sampled sound, and an internal sequencer. All-digital 16-bit processing puts more power in your hands than ever before – try out a stereo reverb or a rotary speaker effect – with amazing realism and clarity. Plug in memory cartridges for added effects, or add the Q1 editing/synchronising MIDI recorder to digitally memorise every note you play.

Casio's Digital Horn looks more like an outer-space saxophone than a MIDI instrument. Six preset tones and a high-fidelity speaker make this one portable unit – but plug it into a synthesizer and unleash unlimited sounds. A portamento control lets you 'glide' and 'bend' notes, and you can choose to blow or not to blow (since sounds can be activated just by pressing the keys).

Yamaha get their licks in with the WX7 Wind controller – it looks like a toss between a piccolo and a *Star Wars* light sabre. The WX7 features two 'Wind Curves' which respond to breath pressure, tight and loose lip modes, and a sensitive set of 14 keys. You can instantly switch octaves, even play two keys at once (that's MIDI for you).



*16-bit keyboard with a built-in sequencer: Korg's M1*

And do check out Yamaha's G10 guitar: oodles of features include a 'fast' neck, string sensitivity control, and ultrasonic (sonar) detection system to determine which fret is being fingered. Both the guitar and WX7 require a tone controller (a synthesizer without keyboard), and will interact with computer-driven software.

## Latest software

Atari's multidisplay booth was bustling with software companies showing off their wares. Hybrid Arts's *Edit Track* is one very powerful sequencer. It has graphic editing, tempo displays, and 60 tracks to play with.

*Realtime* (Intelligent Music) lets you perform music and change it 'on the fly' with a push of the mouse. What else? How about 256 simultaneous tracks, effect multitasking, and full *GEM* control?

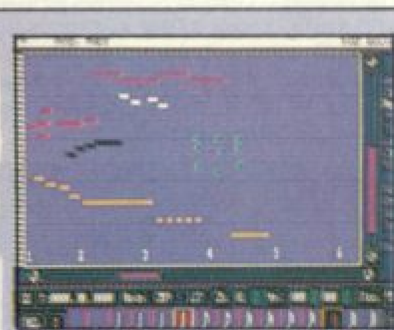
Composer Laurie Siegel is a few feet away, doing a miniconcert with Aesthetic Engineering's *Music Mouse*. This responds to mouse movements combined with keyboard controls to give a visual and aural performance. Features include user-selectable MIDI channels, dual tempo controls, even the inclusion of the octatonic mode used by 20th-century composers such as Béla Bartók and Igor Stravinsky.

On the other side of the wall, Sonus Corporation's *SuperScore* bats out a powerful tune. Its long list of features include a 32-track sequencer, 32 polyphonic staves of scoring, even text and lyric placement on screen. Add to that icons and pictures that can be loaded and saved, chord symbols (including guitar frames), and the ability to mouse 'edit' MIDI data.

That other 16-bit machine wasn't left out either. *SuperScore* is available for the Amiga, and Microillusions's Amiga *Music-X* was making a quiet impact off the showroom floor, with its graphic orientation and patch editor capabilities.

There's no question that music is becoming more electronic, more computerised. but it still requires *your* creativity to become more than just a lot of data strung together.

**Marshal M Rosenthal**



*At last, Amiga MIDI: Music-X from Microillusions*

## CONTACTS

**Casio**
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**Hybrid Arts**
*11920 W Olympic Boulevard*
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For the information we're giving the Hotline is cheap. The phone call will cost you 25p per minute when you call during off-peak time (Mon-Fri 6pm - 8am, Saturdays, Sundays and Bank Holidays) or 38p per minute during standard and peak times (8am - 6pm Mon-Fri). The TGM Hotline is produced by TGM Magazines Ltd in conjunction with Chatterbox Ltd.

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Rip up the highways of the future with *Capcom*'s brilliant conversion of **LED Storm** on Spectrum, Commodore 64/128, Amstrad CPC, Atari ST and Amiga. The review missed this issue but we're all playing it to death on the Spectrum and Commodore (both excellent games), and the ST version is looking great too!

Here's your chance to win one of the 50 copies Capcom are offering in the second Hotline quiz.

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Dial the number and listen carefully to the three questions. Fill in your answers in the boxes provided and complete the tie-breaking sentence given to you over the phone.

When you have complete the questions, write you name and address, and your computer format and send it to: **LED STORM HOTLINE COMP, TGM, PO Box 10, Ludlow, Shropshire SY8 1DB**. All entries to reach us by Feb 15 1989 and, as always, follow the competition rules or there'll be trubble!

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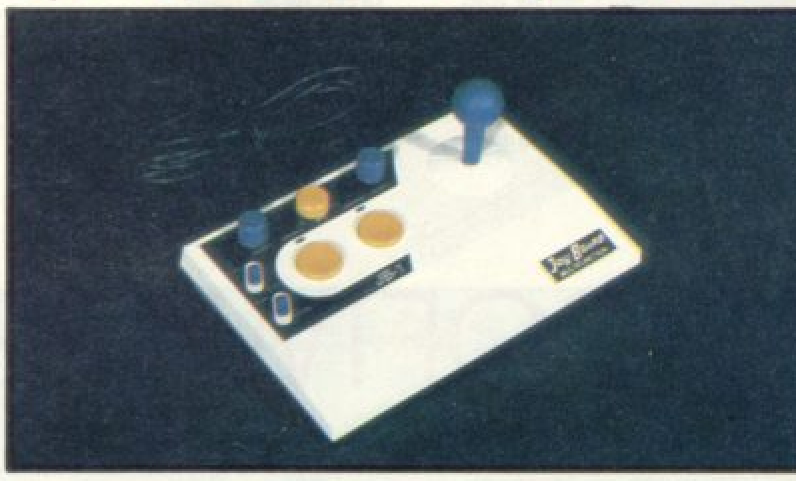
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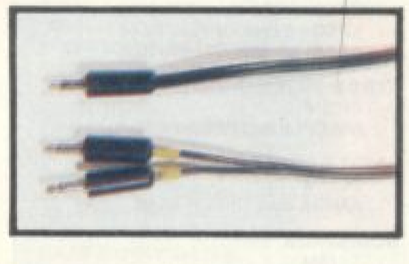
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**DYNAMICS COMPETITION PRO 5000 (clear)**
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**DYNAMICS COMPETITION PRO 5000 (clear)**
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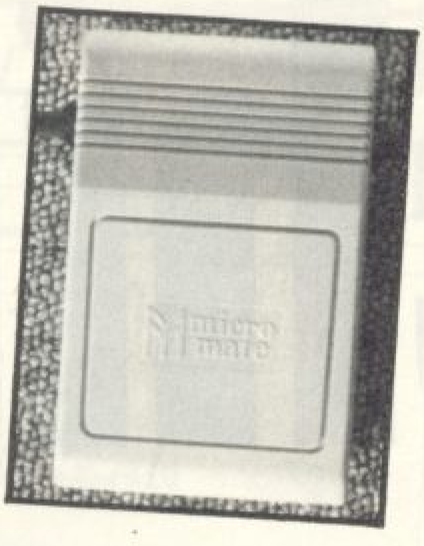
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# READERPAGE

**"The argument that the ST is better than the Amiga because of its larger software base is as ludicrous as saying that the Spectrum is better than the C64 for the same reason"**

Kern Thorpe brings some sanity into the field of battle and grabs himself £40 worth of software

## *SLIDE RULES RULE*

Dear Games Machine

I hope that if you publish this letter the fruitless ST vs Amiga arguments will come to an end (among TGM readers anyway), and that your postbag will contain less of the waste paper that prompted your TGM**013** *Yo! ST/Amiga* outburst.

Every reasonable person knows (and would admit) that given the right programming and sufficient RAM, the Amiga could trash the ST with its windows shut, and that the Cray 2 could do likewise with the Archimedes, MSX and Nintendo in a micro-fraction of the time it takes a Spectrum to print a UDG.

Unfortunately, the vast majority of Amiga games are almost direct copies of St versions, with naff FX, only 16 colours and perfectly preserved jerky scrolling. The result is that effectively:
THE ST IS A BETTER GAMES MACHINE BECAUSE IT PROVIDES THE SAME PERFORMANCE AT A MUCH LOWER PRICE.

I am a serious BASIC programmer (if that isn't a contradiction in terms) and always make use of the Amiga's superior resolution/colours in my programs. When it comes to art or animation applications, the Spectrum 48 is just as serious a rival as the ST when compared to the Amiga. Therefore, as a total package:
THE AMIGA IS A BETTER COMPUTER SYSTEM BECAUSE OF ITS SPECIFICATION.

The argument that the ST is better because of its larger software base is as ludicrous saying that the Spectrum is better than the C64 (for the same reason) and belongs on the front page of the *Sunday Sport*, along with the argument that the ST is superior because its software is better. As ST/Amiga versions of any given game are virtually identical, how can it be better?

In the 8-bit market the quality of software is generally wide ranging between different machines. Atari games always impressed me because of their polish, while my CPC 6128 had to suffer the turkey-programming that prevails amongst Amstrad games. The exceptions – such as *Spindizzy* and *Equinox* show what can be done. It surprises me that 8-bit machines still sell in any quantity (given the price of the ST), particularly the CPC's because their colour monitors are no improvement on a TV and are a waste of money.

ST and Amiga owners should stop slagging each others machines off, shake hands and go and pick on Nintendo or slide rule owners instead.

I apologise for the impending Nintendo/slide rule vs 16-bit war!
**Kern Thorpe (Elite) Essex.**

## *MEN WITHOUT MORALS*

Dear Games Machine
I like your magazine very much and have been reading it since the first issue.

I am writing to you on the subject of software pirates, as featured in TGM**013**. As I own an Amiga I am often asked by friends if they can 'borrow a game to copy in return for a piece of production software'. The answer is firmly yes, because I do not think that software piracy is wrong. What I want to know is how they got the software in the first place. In most cases its 'I've got a friend in the software industry'.

In my view the software industry as a whole is more 'without morals' than the pirates themselves. In some cases they are the pirates. They don't care about the man in the street, only about their own gain. If piracy stopped altogether would the price of software come down? I don't think so.

By the way all computers are equal. It's just that Amigas are more equal than others.
**Richard Harris, London NW7.**

## *NINTENDO OR NOT*

Dear Games Machine
As you have now established yourself as one of the best games magazines around, I thought it was time for me to contribute. First of all, I must say that I read the article *Whatever Happened to the Nintendo* (TGM**011**) with increasing incredulity.

After having seen both the Nintendo and Sega machines (of which the latter seemed to be better) I cannot in any way see how it is better than the ST or Amiga as Mr Gale would like to think. I don't think, either, that the likes of the Nintendo or Sega will make computers obsolete in the home, being a step-back concept. But, O dear! We computer owners cannot buy gimmicky toy gadgets which take our minds off the games! All I can say is thank God! And who needs arcade conversions anyhow? Let's have some more original ideas!

I think 16-bit games are a bit too expensive, an the Nintendo ones are even worse and the end product isn't as good. What a deal! What the Hong Kong Chinese would call a 'buddy lip off'!

Moving on, can you please stop telling us that the Amiga is far superior to the ST. For one thing the ST is slightly faster than the Amiga, especially when lobbing around *Starglider 2* graphics on screen. Also the Amiga's disc drive isn't as efficient, and it ain't got no MIDI interface.

Another thing. I disagree with your opinion of *Virus*. In concept, it does seem to lack variety but in practice it's incredibly addictive. It also has the advantage of enabling you to show off with mouse-handling controls once you master it (when noone else can take off without flipping upside down!).

What's all this I see in Endpiece TGM **011**. £600,000 worth of pirated software recovered by the HK government? So What? That's nothing. They recover that much each week (even if they don't tell the press about it). In fact, piracy is so bad over here that if you want to find a computer game in a shop over here your first asked if you want the pirated version! No whispering either, straight to the point! A FAST representative could have a field day (even if I did exagerate the amount recovered each week).
Anyway, keep up the good work.
**A.R.C.Britton, Hong Kong**

## *ORIGINALITY*

Dear Games Machine
Okay, so letters concerning piracy are getting a little outdated these days, but you rather asked for it – running the article in TGM **013** about big business piracy.

Let me explain. My first computer was made by Texas Instruments in the days when 16K cost £250. The Spectrum was still about six months away. The TI was (and still is) a nice computer – but it wasn't much of a success. I believe that one of the contributing factors was that the only software copyable was tape-based, and that meant that it was in BASIC. The only really impressive (ever seen *Parsec*?) software was on cartridge, i.e. uncopyable.

Next came the Spectrum. Yes, I choose that in preference to an Amstrad because of all the Spectrum games that would be available to me from my friends.

Now I own an Amiga. This wasn't chosen in preference to an ST because of the software I could copy (I have an equal number of friends with ST's), it was simply that I wanted an Amiga.

If I want I can get hold of copies of software. But as I review for the Amiga User Group (no that is *not* where I could get games from), some software houses are reasonable enough to provide me with software to review. This is generally enough.

However, even in the days of the Spectrum piracy wasn't a case of one person buying a game and everybody in the world ripping it off. Eleven to fifteen year olds get suitably upset if they don't get someone elses *original* to play now and again. Originals were being purchased regularly – there was a certain prestige in waving an original under a friends nose. It's now the same with Amiga software.

Anyone who says 'you shouldn't copy games, it damages the industry' is seriously out of touch with the way things work. As far as I can see, school children worry about morals about as much as the sperm whale worries about covalant molecule bonds and what happened in Tuesday's edition of *Neighbours*.

The point is that in six years of reading magazines I have *never* read of any successful prosecution for copying software. I think this is why people do it – because they never see themselves getting caught.

If the industry is being damaged they'll just have to grin and bare it, because piracy ain't going to stop.
**Adam Southeran, Cheshire.**

***Contrary to popular belief, FAST will tell you that pirates do get caught. What are covalant molecule bonds?***

## *IN PRAISE OF CPC*

Dear Games Machine
When will it ever end? I thought we had had enough of the 'my computers better than yours so there' mentality years ago with the Spectrum/C64. But no, along came that ST and Amiga and people start up all over again. What's the point? The choice of computer you buy is determined by what you want to use it for, and not just has it got better graphics or sound than any other machine. Both have their advantages and disadvantages, so what's all the fuss about?
For myself, if I had the money I would buy an Amstrad CPC 6128. I don't need 16-bit processing power, I know Z80 machine code and locomotive BASIC pretty well already, and the machine is perfectly adequate for anything I may want to do. Both the ST and Amiga are here to stay and they need each other – without the software sales for one, quality and quantity of programs for the other would suffer.
I think your magazine is very good, especially the coin-op pages. Can't you give the roleplay more room? There is plenty of stuff around top write about. How about a feature on live roleplaying?
**Andy Stephens, Cleveland**

## *CONVERSIONS*

Dear Games Machine
Your piracy feature (TGM **013**) was interesting. What gets me though is that you say that you're anti piracy, yet the pen pal section is full of them every month. It's easy to tell as they tell you their code names. Last month, I wrote to one of the companies and, guess what – pirates! It's impossible to stop them.

Another thing that annoys me is coin op conversions. Companies spend thousands getting a license, then bring out a low budget game like *OutRun* and they sell like hot cakes. There's a long list of disasters, such as *Bomb Jack*, *Street Fighter*, and *Rolling Thunder*. You'd have thought people would have learned a lesson, but they still buy the rubbish. Don't they read your reviews?

Don't get me wrong though, you get the good ones (i.e. *Operation Wolf* and *PacMania*) but as games reach state-of-the-art standards like *AfterBurner* you'd think companies would stop. *AfterBurner* on the Spectrum is like trying to fit the Atlantic on a teaspoon.
**Steve Hunter, Scotland**
***In future TGM will not accept any classified ads from anyone using a code name***

**Right! Let that be positively the END of letters on the ST/Amiga dispute – and please, no more letters on software sexism either! Anything else is welcome at READERPAGE, TGM, *PO Box 10, Ludlow, Shropshire SY8 1DB.***

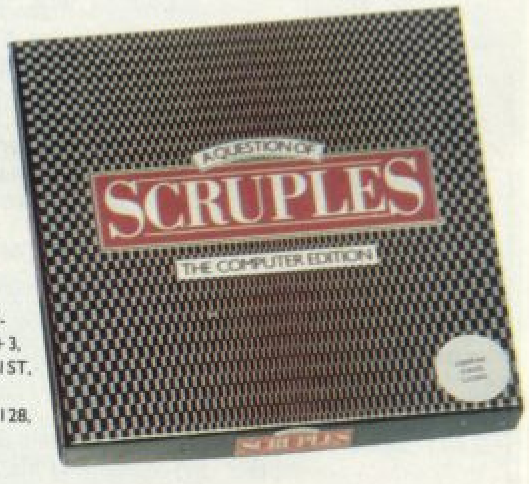

She's Mad. She's Bad. and here comes dad.
MERCY DASH
MR CROUCH FEELS THE FRANTIC BREATH OF 1992 PANTING AT HIS NECK...
by Mel "Thin on Top" Croucher & Robin "Thin all over" Evans.
WE'VE GOT TO GO EUROPEAN, FOUR-EYES, OR WE'RE SUNK. WHAT LANGUAGES DO YOU SPEAK?
BAD ENGLISH AND JUST PLAIN BAD!
HUH. AND I SUPPOSE IT'S NO GOOD ASKING MERCY...
WHAT? ZOOT ALLURES, MEIN HERRING! OLÉ! LA TRAVIATA UND AVANTI!
MERCY, WHAT A GIFTED LITTLE TONGUE YOU HAVE!
WE'RE OFF ON A EUROSELL! YOU CAN TAKE CARE OF PROTOCOL!
PUT HIM IN KENNELS! ...I'M COMING ALONG! AND I BET I GET MORE EXPORT ORDERS THAN YOU CLODS... TWENTY QUID SAYS I DO!!
YOU'RE ON!!
TUBULAR! TELL DAD TO PACK MY DRINKING BOOTS... AND HAVE ROVER DESTROYED, WILL YOU? I'M GOING TO 'PHONE AHEAD!
YOU WERE KIDDING ABOUT THEM LAYING ON A CAR, WEREN'T YOU, MERCY?
NO! THEY WERE ALL DEAD CHUMMY... SPOKE A BIT FAST, BUT I GOT THE BIT ABOUT THE CAR...
SEASTINK
...ONLY ONE SNAG, MUGS ...I DIDN'T MENTION YOU!
LE D'ACHE! FORMIDABLE!
STYLE CITY! SAY NOTHING, BOYS, I'LL CONVERSE IN HIS NATIVE GIBBERISH!
ER, BONJOUR, COCK, JE SUIS LA CELEBRATED MERCY DASH, VOICI MON DAD... ER... ET THOSE OTHER HOMMES ARE JUST GROUPIES, SAVVY?
COUGH! GAG! DID I JUST SEE ALL THAT, EVANS?
DIDN'T KNOW SHE WAS THAT BIG IN FRENCH SEURFTWARE!
COUGH
VREUM
AND WE ARE SO APPY TO AVE IN OUR MIDST ZE FAMEUSE MONSIEUR D'ACHE...
IF HE CALLS ME 'MUSHER' ONCE MORE I'LL... WHAT? LADY WITH AN ORDER FOR MUSHER DASH?
WEENSTON! EET IS YOU
AH, CHERI YOU 'AVE NOT CHANGED SINCE 1944!
SACRÉ BLEU
SNATCH
HUH! HE HASN'T CHANGED HIS SOCKS SINCE 1944. JUST GIMME THE PAPERWORK, WRINKLY!
MERCY AND DAD ARE WHISKED OFF TO THEIR GERMANY APPOINTMENT AFTER MUCH BOOZING...
GOOD OF THEM TO PICK US UP, WASN'T IT, DAD... WHAT IS IT? OH, HANG ON, I'LL PHONE THE DRIVER.....
...AHEM... HE SAYS IT'S AN ASH TRAY... BUT TO GO AHEAD AND USE IT ANY WAY YOU LIKE...
MEIN GOTT! KAPITAN DASCHE!
HIC! ALLO, ANOTHER ORDER TO STUFF UNDER ME BELT?
JA, ISS DAS STUFFINK UNDER DAS BELT I TALK ABOUT TO VINNY VISH TO!
SNATCH
COME ON, DAD! WE'RE FLYING TO SPAIN! THEY'VE LAID A CHOPPER ON!
MEANWHILE...
WE'VE BEEN STUCK IN CALAIS FOR 3 DAYS WITHOUT A SNIFF OF A LIFT!
I'LL TRY SHOWING A BIT OF LEG. UMM. I WONDER WHERE MERCY IS NOW?
THIS IS ALL RIGHT... I HAD A RIDE IN A JELLYCOPTER LAST MONTH TOO, YOU KNOW...
VISIT PLAZA DE DASH
ESPANA
...MIND YOU... THAT WAS IN COLOUR.
FORGET IT, FELLAS, I CAN'T UNDERSTAND A DAMN WORD! ANYWAY, ALL THIS FUSS JUST FOR ME IS MUCH LIKED... LAH... GROSSEN GRAZIE... OH, NO, I MEAN... UM..
GENERALISSIMO! OVER HERE!
AH! ANOTHER OLD PRUNE WITH ANOTHER OLD ORDER... OH WELL, MAKES A CHANGE FROM YUPPIES, I SUPPOSE...
CALAIS...
WHAT DO YOU MEAN, WE'RE BEING DEPORTED?
BURGER OEFF, LES ANGLAIS AVEC FLATULENCE!
OTHER UNDESIRABLE ALIENS GET TO WRESTLE WITH SIGOURNEY WEAVER!
...WHILE MERCY AND DAD ARE DOWN AMONG THE DYKES AFTER A PRIVATE AIRLIFT...
MARSHALL DASH! IT IS AN HONOUR TO MEET A LIVING LEGEND!
YOU BETCHA CLOGS, YOU LI'L DUTCH CAP'N! BUT GET THE NAME RIGHT... IT'S MERCY DASH... M-E-R-SEE-WHY-MERCY...
WELCOME MARSHALL DASH
YOO-HOO! VINSTON, DAHLINK!
REMEMBER ME! I VOS DA VOMAN BEHIND YOU... EXCEPT VHEN I VOS IN FRONT OF YOU, OF KOSS...
SNATCH
JUST GI'S THE PAPERWORK, EDAMFACE! ME ORANJEBOOM'S GOING FLAT!
LATER, MERCY AND DAD FLOAT HOMEWARD IN THE MOST LUXURIOUS CABINS SEASTINK CAN PROVIDE...
HA! GOT A TELEMESSAGE FROM BALDY AND FOUR-EYES! THEY'VE BEEN QUARANTINED AT DOVER! TER-HER! BETTER DROP BY AND PICK UP MY DOUGH, IN CASE THE AUTHORITIES DECIDE TO HAVE 'EM DESTROYED! TER!
MERCY! MEL, IT'S MERCY, SHE'S COME TO FREE US!
DO NOT FEED THE DETAINEES
HELLO, MERCY, YOU CUTE LITTLE MINX... PLEASE GET US OUT OF HERE!!
YEAH, THERE'S A BIG GUY IN HERE WHO KEEPS ON ABOUT KISSING SPIDER WOMEN!
OF COURSE, BOYS! JUST GIVE ME 20 QUID EACH FOR WINNING THE WAGER! HERE ARE PHOTOCOPIES OF THE ORDERS I TOOK!
MERCY! YOU PIE-FACED LITTLE PORKER! LET US OUT! EEAAGH!!
TUT-TUT! MAD AS MONARCHS! GOOD JOB THEY'RE LOCKED UP!
OH WHY HAVE I GOT TO LOOK AT YOUR UGLY MUG FOR ANOTHER TWO MONTHS IN THIS CUBICLE?
HM. SAFEST PLACE, JUDGING BY THESE HERE ORDERS
OH? WHY?
I'M NO LINGUIST ...BUT THESE ARE PATERNITY ORDERS!
GUB...
NOT AGAINST YOU, NUMBNUTS... AGAINST ONE WINSTON ALBERT NELSON DASH...
YOU WAIT 'TIL I GET THESE ORDERS TRANSLATED. I'LL BE A HEROINE!
BY THE WAY... WHAT DID YOU DO IN THE WAR, DAD?
ALL VALENTINES CARDS TO MERCY CARE OF TGM. SHOW HER YOU CARE.

SURE GENIUS
BY VIRGIN ATLANTIC
E OPERA IN NEW YORK!



**MONOPOLY/**
**MONOPOLY DELUXE**
*available on:-*
DISC: CBM 64, AMSTRAD, BBC B.
CASS: SPECTRUM CBM 64, AMSTRAD, BBC B, MSX.




**SCRUPLES** *available on:-*
DISC: C64, SPECTRUM+3, AMSTRAD, ATARI ST, IBM PC.
CASS: C64, SPECTRUM 128, AMSTRAD, SPECTRUM 48.




**CLUEDO** *available on:-*
DISC: C64, AMSTRAD, EINSTEIN.
CASS: SPECTRUM, C64, AMSTRAD, MSX, BBC.

*T*his competition will cover all purchases of Leisure Genius product from December 1st, 1988 to March 31st, 1989.

*T*he 50 runners up will win a Leisure Genius game of their choice for their computer.

*D*on't forget the more games you buy the more you increase your chances of winning.

*G*ood luck and happy playing.

Fly Virgin atlantic

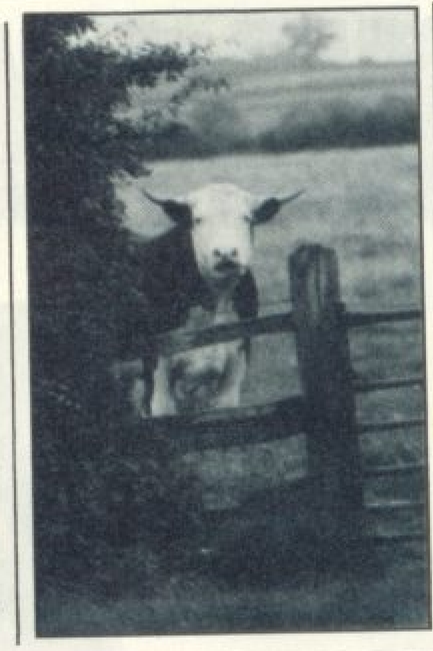
This competition is subject to product being purchased from participating dealers.

# the charts

## DOWN ■ ON THE ■ FARM

Now, livin' in Ludlow, see, we don't get many of them thar computers. But we've 'eard there's games you can play on 'em while you's watchin' the turnips grow . . .

- **By Fair Means Or Fowl**
- Way Of The Exploding Ferret
- **RoboCauliflower**
- The Games: Village Fete Edition
- **Carrot Command**
- F-19 Stealth Sprayer
- **Neuromanger**
- Oooarr-Type
- **Better Dead Than Edwina Currie**



*'What did you just call my MSX?'*

## THE ■ PRICE ■ WAS ■ WRONG

**In April 1982 the new ZX Spectrum was launched at £175, with a (then) astounding 48K of RAM . . . today, the 128K +2 with built-in cassette drive is only £139.**

In 1987, Sega launched the Master System in Britain at £99.95 and the light gun cost £44.95 – today it's an all-in deal at £79.95. The basic Nintendo, meanwhile, has dropped £30 since its UK release – it's now £99.95.

**A PCB (printed circuit board – the equivalent of software) to run Data East's Dragon Ninja on a coin-op costs £590 . . . on the ST, Imagine's game costs just £19.95.**

The ST and Amiga have been up and down like yo-yos – in round figures, Commodore's machine started at £500 and came down £100 to its present £400, while Atari's went up £100 to £400 from £300 and then came down £100 to £300 again, though you can get it with games (which are probably worth more than the £100 extra) for £400.

Confused? Buyers aren't – all the signs are that regardless of prices, the ST is far ahead of the Amiga. And as we went to press, the six top-selling 16-bit games were all ST.

## A ■ NOT SO TRIVIAL ■ QUIZ

With 1988 well and truly over by the time you read this, and every other magazine's Christmas quiz either completed or thrown away in frustration, we've got the ultimate solution for those back-to-school blues. It's the TGM 1988 quiz, and you can find all the answers in the last 12 issues – that's TGM**004** to TGM**015**.

Just put your answers on a postcard or the back of a sealed envelope (with your name and address, stupid) and send 'em to **THE 1988 QUIZ, TGM, *PO Box 10, Ludlow, Shropshire SY8 1DB*** to arrive by **February 16.** Usual rules as printed on the contents page apply and so do all sorts of far-out and very unfair ones which aren't printed on the contents page, like we reserve the right to smash the winner's brand new Amiga.

Oh, the prizes? No, not another Amiga – but TGM T-shirts for the first ten correct entries picked out of the RS232 port, plus a one-year subscription to TGM for the very first winner.

**1** Which famous and reclusive Spectrum software house resurfaced programming Nintendo games?

**2** What software house launched in January 1988 with £1 million, promised games for 'the discriminating user' and named itself after an orange?

**3** What American software house, represented in Britain by Mirrorsoft, specialises in 'interactive movies'?

**4** Which software house sounding a bit like a Steven Spielberg movie sent seven programmers to jump out of a plane – raising money for the Royal National Lifeboat Association?

**5** Ere Informatique named a game after a famous pirate (of the seagoing variety), designed it like Alien (the movie) and used music by Jean-Michel Jarre (the, like, out of this world). What game was it?

**6** TGM published a screenshot from Anco's *Strip Poker II Plus*. What was the pixelated woman wearing?

**7** People started to realise cassettes weren't the only music medium you could store programs on – and they weren't thinking of LPs either. We covered the new technology as it started to really arrive. What is it called?

**8** NEC, a giant Japanese company, produced a tiny console. It was never officially released in the UK, but one or two outlets sell it, and we've reviewed the great games. What's the console called?

**9** TGM had the first news when Amstrad planned a new Sinclair machine. But it wasn't a Spectrum – what was it?

**10** Mirrorsoft launched a new label, promising games like *Bombuzal* and *Foxx Fights Back*. What's it called?

**11** Activision changed their name. What did they call themselves?

**12** Code Masters started producing full-price games, then so did Alternative Software. What did Alternative call call their their label label?

**13** TGM went flying in America with the President of a well-known simulation software house. Name him.

**14** Konix joined the console club. What were they already famous for?

**15** The annual PC Show changed location to Earls Court. Where was it held the previous year (1987)?

**16** A feature in TGM**013** had pictures of six *very* odd men. Where did they all work?

**17** Ocean released a Taito coin-op conversion, expected to be one of the biggest games of the Christmas season. The scenario was about rescuing hostages. Name the game.



*Who brought him back? Munch through our questions and win a TGM T-shirt.*

**18** Pac was back . . . in *Pac-Mania*, another coin-op conversion of the chubby chomper. But which new(ish) software house produced it?

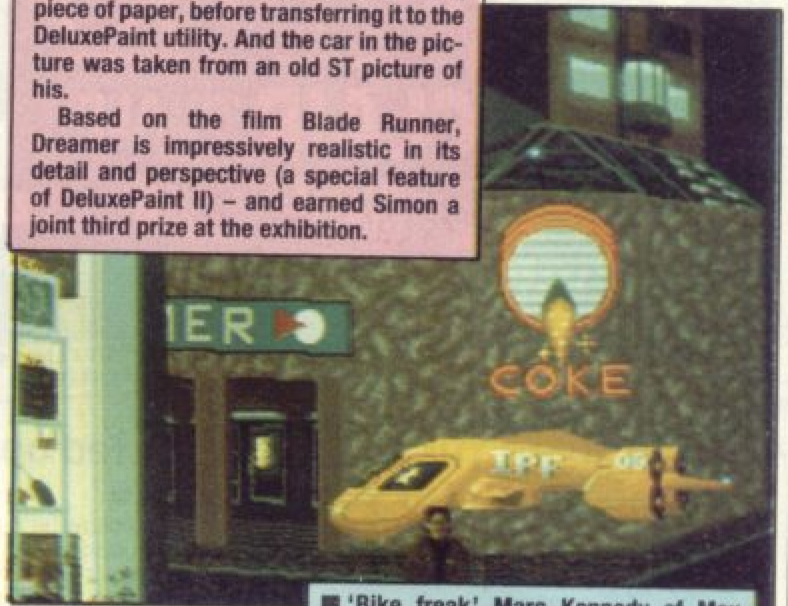
**19** Yet another company promised to release a console, this time based on its own 16-bit micro. Which company was it?

**20** 1989 started on a Sunday. What date was it?

# MOTION PICTURES

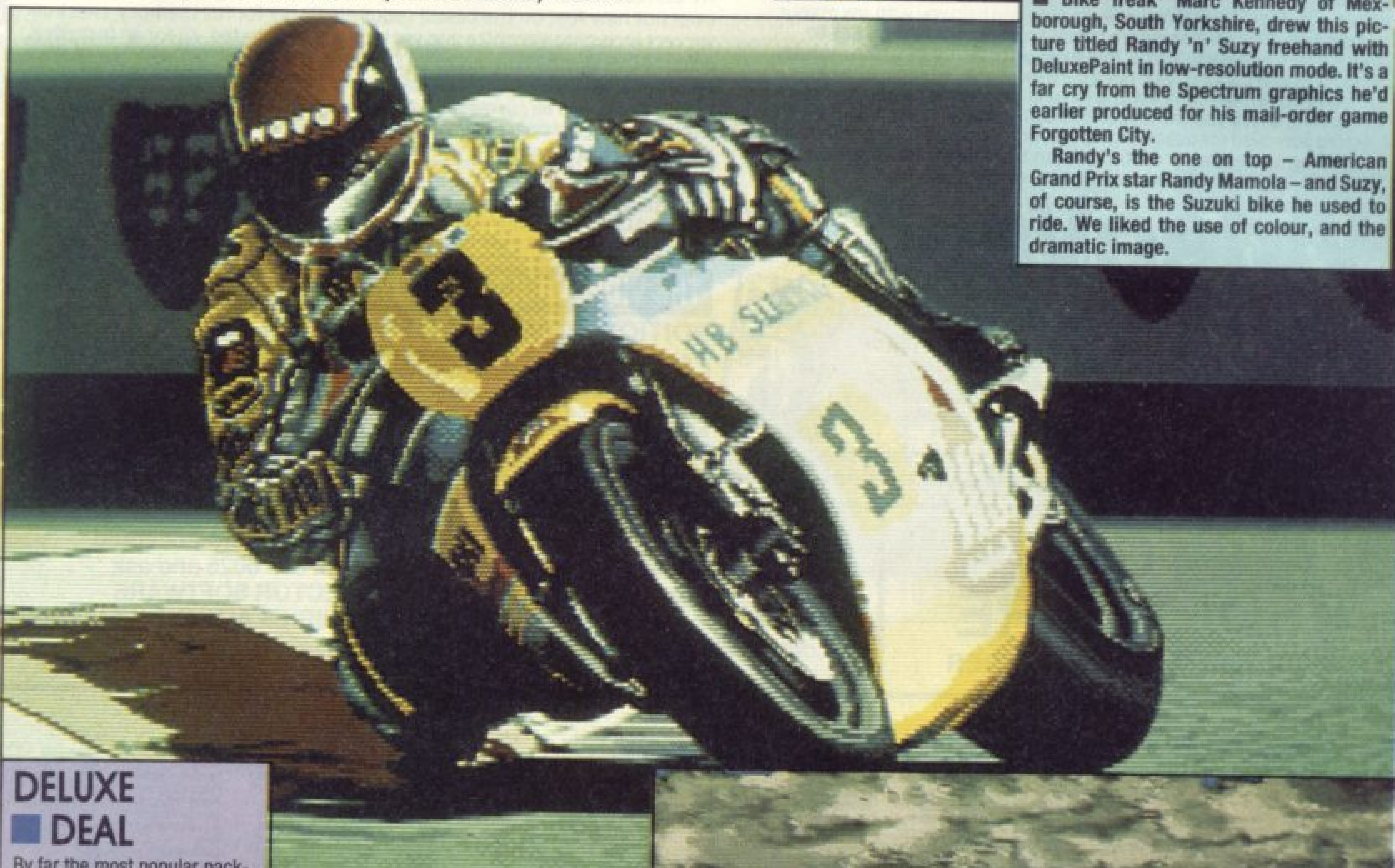
For this month's TGM Gallery we've chosen pictures featuring various forms of **vehicles and flight**, to fit in with the flight-simulator theme that runs through this issue from Jez San to the F-19. And things move better with an Amiga, it seems – all were produced on that multicoloured **monster**.

As in the first Gallery, all the pictures were exhibited at the Autumn Computer Art Show sponsored by TGM.




■ Upgrading from an ST to an Amiga proved vital to Simon Bullman of Harlow, Essex – though 'I could still use some more colours and a higher resolution', he says. But Simon started Dreamer on a piece of paper, before transferring it to the DeluxePaint utility. And the car in the picture was taken from an old ST picture of his.

Based on the film Blade Runner, Dreamer is impressively realistic in its detail and perspective (a special feature of DeluxePaint II) – and earned Simon a joint third prize at the exhibition.



■ 'Bike freak' Marc Kennedy of Mexborough, South Yorkshire, drew this picture titled Randy 'n' Suzy freehand with DeluxePaint in low-resolution mode. It's a far cry from the Spectrum graphics he'd earlier produced for his mail-order game Forgotten City.

Randy's the one on top – American Grand Prix star Randy Mamola – and Suzy, of course, is the Suzuki bike he used to ride. We liked the use of colour, and the dramatic image.

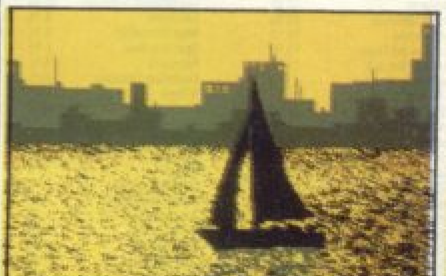
## DELUXE DEAL

By far the most popular package with our artists is Electronic Arts's *DeluxePaint II*, an upgraded version of the earlier *DeluxePaint*.

And it's also used widely by professionals in fields from TV production to nightclub entertainment – one American club uses it to alter images of customers' faces and project them on a giant video screen!

Available for Amiga (£69.99) and PC-compatibles (£99.95, 5.25-inch and 3.5-inch formats), *DeluxePaint II* was reviewed in TGM**003** (Amiga) and TGM**007** (PC).

If you're thinking of upgrading for art, remember we reckoned that a good PC with *DeluxePaint II* could be even better than an Amiga.



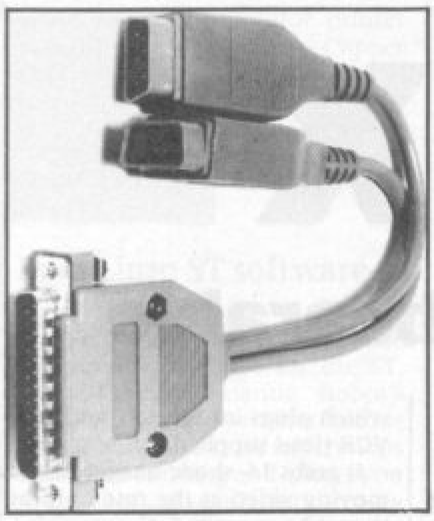
■ Keeping it simple paid off for Phil Askew of Staines, Middlesex, whose Sun Dawn Sailing took just half an hour. And it was only the second picture he'd done with DeluxePaint on his new Amiga.

Starting with a plain black background, he quickly drew the buildings as lines, shaded in the sky 'behind' them, created shades of orange in the palette editor, airbrushed them onto the 'sea', and added the yacht silhouette.

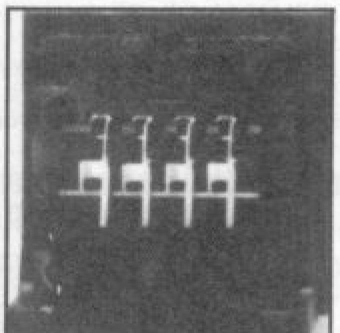
Phil earned a Special Mention at the exhibition.



■ If only simulators looked like this . . . it's no surprise to learn that Nick Heppinstall of Sheffield is 'into graphics and designing spacecraft'. To create this atmospheric picture, which really gives a sense of flying high above the clouds, Nick drew the plane and background separately in DeluxePaint II, ported both files over to Photon Paint (from Microillusions) and merged them there. It's easy when you know how.



# BACK BYTES





## CONTENTS



PRESS ANY KEY

# Toolbox

## Products and news to make life bearable

## More for Commodore

**Light wars and disk drives are on the menu as Jason Sheldon continues his report of November's Commodore Show**

### Amiga light gun

Club 68000 were showing off the Phasar Gun, a game accessory which shoots a beam of light at the monitor. The gun then registers the reflection off the screen, and the computer calculates where you hit.

At the moment only two games work with the gun – they are *Capone* and *P.O.W.*, both from Actionware. But Club 68000 promise that nearly all future releases on Amiga will be compatible with the Phasar Gun, as they've given the essential driver routines to most software houses.

Five Phasar Gun games are in production. One is *Alien*, a sort of platform game in the mould of *Impossible Mission*; the other is similar to Sega's *Duck Shoot*, but takes you around the world shooting things relevant to the country you're in, so beware flying pizza!

Club 68000: *Suite 1, Wickham House, 2 Upper Teddington Road, Kingston, Surrey KT1 4DP* ☎ (01) 977-9596.

### Disk discoveries

Club 68000 also had the latest external disk drives with a digital track display. One use for this could be to locate errors on your disks: watch the display when your drive head starts to smash your disk to pieces, and you can go back to the track later to reformat or repair it. The display also looks very pretty in the dark.

A 3.5-inch drive is £119.95, 5.25-inch is £149.95.

**Fast and furious**

Club 68000 also claim to have the fastest hard disk available for an Amiga. It runs as the DMA controller, and is so fast it has to stop and wait for the Amiga to catch up! Available in 20Mb, 30Mb, 40Mb and 60Mb configurations, they start from £429.

Club 68000's address and phone number are in the item above.

### New Amiga Workbench

Commodore were secretive about most of their plans, but *Workbench 1.3* for the Amiga should be available soon. It has one special feature: it automatically checks the boot blocks on the disk, and checks to see if the code is standard or nonstandard.

If the code seems to be 'alien', it automatically rewrites the boot blocks. Say goodbye to viruses!

Also promised is a BBC emulator for the Amiga, called (amazingly enough) *BBCEmulator* (and yes, it is one word) . . . watch TGM**016** for details.

Commodore Business Machines: *Commodore House, The Switchback, Gardener Road, Maidenhead, Berkshire* ☎ (0628) 770088.

### Quick Amiga backup

HB Marketing had *X-Copy*, an Amiga backup utility which they claim is a lot faster than most others. At £20 it copies four disks at the same time, if four drives are connected; copies from RAM in 68 seconds; copies ST, PC and Archimedes disks; and repairs broken checksums.

*X-Copy* loads from *Workbench* and takes you back there when you've finished.

HB Marketing: *Brooklyn House, 22 The Green, West Drayton, Middlesex UB7 7PQ* ☎ (0895) 444433.

### Money, money, money

We all know ST owners are rolling in dosh, so what better yuppie utility for them than Microdeal's *Personal Finance Manager*? The £29.95 package, using a windowing *GEM* interface, helps you keep track of accounts and credit cards and make sense of those statements which bear no relation to reality.

It can remind you of regular payments, make the overdraft look scientifically manageable with pie charts and graphs, and of course print out.

Microdeal: *PO Box 68, St Austell, Cornwall PL25 4YB* ☎ (0726) 68020.

### ST/Amiga hard disk

Make your ST mega with a hard disk add-on from Power Computing. At £399 for 20Mb or £499 for 40Mb, the hard disks allow you to store huge quantities of data right inside the computer – 40Mb is the equivalent of 80 floppies! Keep your favourite utilities there, or even boot up straight into a game.

The Triangle Elite Turbo3 hard disks are also available for Amiga and Archimedes at the same prices.

Power Computing: *44a Stanley Street, Bedford MK41 7RW* (0234) 273000.

### Video to ST

Rombo Productions offer a short cut to lifelike ST graphics with VIDI-ST, a £99.95 video digitiser which plugs into the ST and your VCR (lead supplied).

It grabs 16-shade images from a moving video at the rate of more than 12 per second, the manufacturers claim, and stores them in *Degas*, *Neochrome* or bitmap format – ready for manipulation.

You can combine a new video frame with an existing picture using VIDI-ST's 'grab window', cut and paste between frames with pixel-perfect accuracy, and control colours and brightness from VIDI-ST's accompanying software.

The system also works with a video camera, so you can bring real-life pictures into your ST.

Rombo Productions: *107 Raeburn Rigg, Livingston EH54 8PH* ☎ (0506) 39046.

### Protection against power

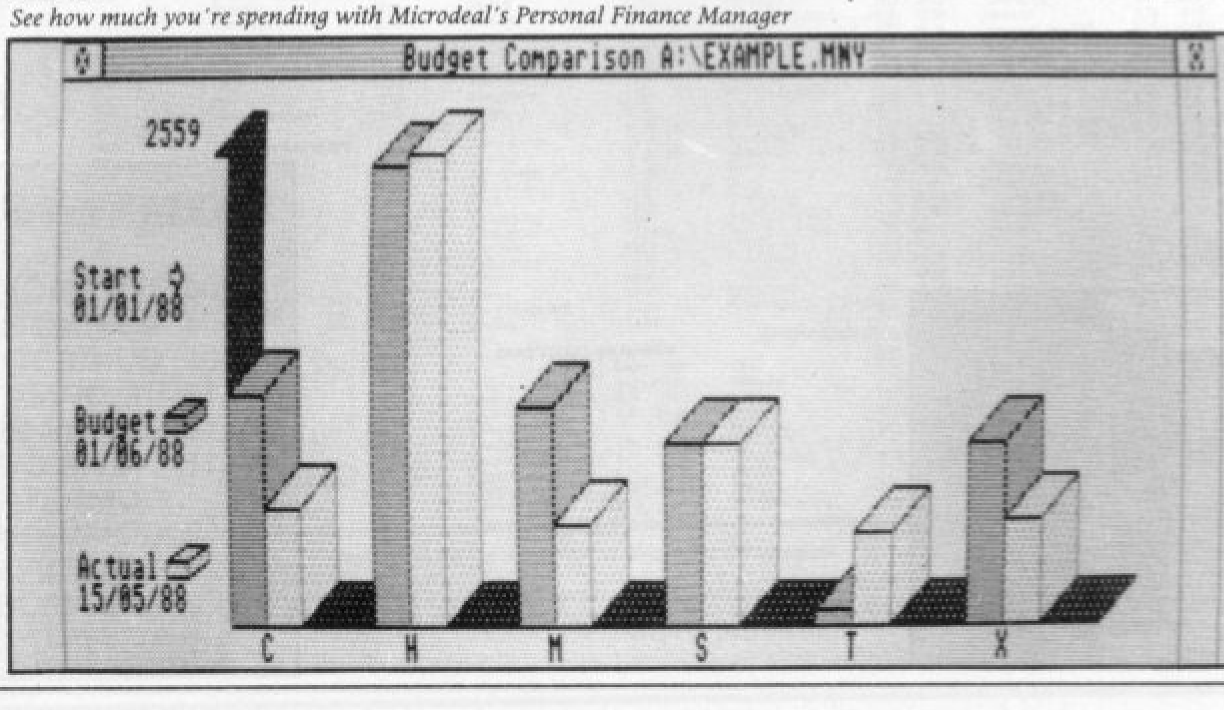
Electricity isn't always a dream, because sudden fluctuations in the power supply can crash your computer – and destroy unsaved data. Now Beswick offer three new products to keep electrical spikes and surges at bay.

The Mains Filter Adaptor plugs into the socket – no wiring required – and is available for £25.13 (3-amp version) or £36.51 (7-amp version).

The £17.08 Two Gang Filter Converter replaces the insides of standard double sockets; plug the computer in as normal, and you're guaranteed that the current won't exceed 13 amps.

And for multiblocks, those lumps of white plastic which make one socket into four (essential

*See how much you're spending with Microdeal's Personal Finance Manager*



when you've got monitor, printer and the works), the Surge Clipper (£11.44) filters the power supply to everything that's plugged in.

All are available from Cirkit Distribution, *Park Lane, Broxbourne, Hertfordshire EN10 7NQ* ☎ (0992) 444111.

## Break into ST software

The Spectrum tinkerer's favourite tool is now available for the ST. For £49.95, Romantic Robot's Multiface ST gives you that famous 'magic button' feature which stops a program running and allows you to change it, save it, print memory contents, print the screen, etc.

No ST memory is used because the Multiface's program is all contained on a 64K ROM card inside the add-on, which plugs into the cartridge port.

To prevent the Multiface being used for piracy, Romantic Robot have written the system so that it must be plugged in to load programs it's saved.

Buyer beware: the Multiface ST won't work with all software, so if you've got a specific use in mind, ask Romantic Robot first.

**Disassembly required**

As Romantic Robot move further into ST products, they're also planning a disassembler add-on to the Multiface, which will turn 68000 machine code into easier-to-use assembly language. It's available this month at £19.95, but of course you need a Multiface ST too.

Also on the cards is a real-time ST digitiser, a bit like Rombo's (see above).

Romantic Robot: *54 Deanscroft Avenue, London NW9 8EN* ☎ (01) 200-8870 (credit-card orders can be made 24 hours a day). Multiface postage and packing is £1 in UK, £2 in continental Europe, £3 elsewhere.

## Free 5.25-inch floppies . . .

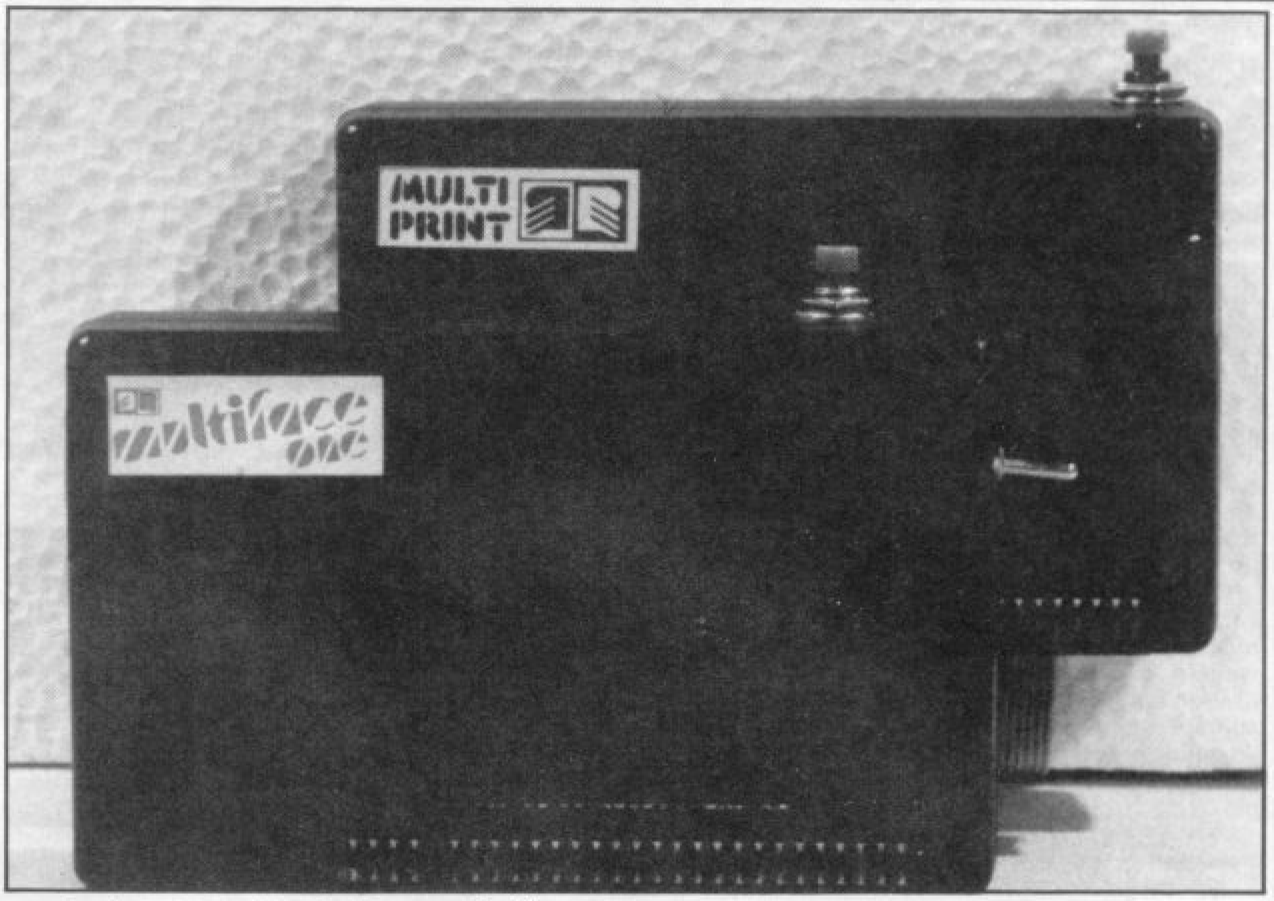
Compumart are offering two 'free' 5.25-inch double-sided double-density disks every time you buy a box of ten.

Buy 50 of the floppies, and the incredible extra prize is a pack of three audio cassettes. Rush out, stock up on disks, and contact the Compumart Hotline on (0509) 610444 to claim your freebies.

## . . . And free paper too!

Compumart are also offering a free starter pack worth over £30 if you buy certain Amstrad, Citizen or Panasonic printers from them. The pack includes 1,000 sheets of paper, an extra ribbon and a printer-interface cable.

Printers in the offer are 9-pin and 24-pin dot-matrix models, starting at £159.85 (see Back Bytes, TGM**014** for printer info). And delivery is free, so it just could be a good deal . . . phone the Compumart Hotline on (0509) 610444 for information and ordering.




*Now for the ST: Romantic Robot's Spectrum Multiface*

## Teletext on the PC

PC-compatibles can now receive the CEEFAX and ORACLE services onscreen with a BBC-authorised add-on. Costing £199, the BBC Advanced Teletext Receiver works with all 100% PC-, XT- and AT-compatibles including the Amstrad PC1512.

It plugs into an expansion slot and a UHF aerial; you tune it to the correct CEEFAX and ORACLE frequencies using the supplied software, and then save them for quick access next time.

Any teletext pages you choose can be saved – though you must write your own program to do this. And the receiver's Telesoftware Mode allows you to receive free PC software transmitted by the BBC (educational, of course).

Produced by General Information Systems, the BBC Advanced Teletext Receiver is available from Vector Services, *13 Dennington Road, Wellingborough, Northamptonshire NN8 2RL*.

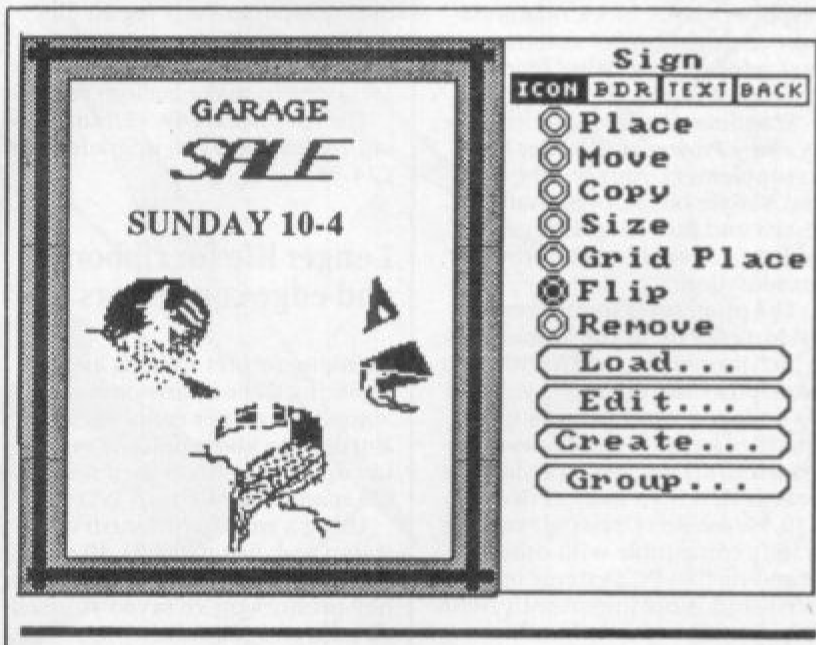
(General Information Systems was established by Acorn cofounder Chris Curry, so not surprisingly a similar system is also available for Acorn's old BBC micro.)

## Inside Joyce

If you're not content with word processing, this may be the book for you – Spa Associates have published *PCW Machine Code*, a guide to programming the Z80 processor at the heart of Amstrad's PCW range (8256, 8512, 9512).

At £15 including postage, the book covers all aspects of hardware control including screen, printer, and drive, as well as memory and maths functions. There's even a chapter on errors, which we bet will become the best-thumbed.

Spa Associates: *Spa Croft, Clifford Road, Boston Spa, Lincolnshire LS23 6DB.*




# Putting it on paper

Give Valentine's Day cards that personal touch with Electronic Arts's new *DeluxePrint II* – it's all so quick and easy. Just load in your main image from EA's *DeluxePaint II* or *Degas Elite*. Resize it to suit your needs. Now select a typeface and add your personal message. Choose a border to complete the design and you're ready to print.

In case you don't own a compatible art package, *DeluxePrint II* does include an image and palette creator. Of course, to take full advantage of the colour facilities you do need a colour printer . . .

*DeluxePrint II* alone costs £49.95; alternatively, you can buy *DeluxePaint II* (TGM**003**, also see Gallery on page 97 this issue) and the original *DeluxePrint* together for £69.95.

PRESS ANY KEY

## The Vikings are coming to your PC

Maybe not in quite the same numbers as they did 1,400 years ago, but Scandinavian PC Systems do have three new packages for PC-, XT- and AT-compatibles: two word processors and a handy MS-DOS menu system.

For £30.99, *Menu* gives a clear, conveniently accessed overview of what the hard disk contains. The user specifies the programs which are to appear on the main menu, and can then run them simply by selection – no more remembering obscure .EXE filenames. Of course, the menu can be changed at any time.

Or the menu can be set up so each option leads to another submenu – for instance, you might want to choose from GAMES, GRAPHICS and UTILITIES, go to the appropriate submenu, and then select the program you want. This system helps keep the screen simple.

### Words and some pictures

Billed as a 'vastly improved' version of Sweden's leading word processor, *Word Processing 2.0* includes more than 20 new or revised features. Standard features include search and replace, automatic justification, a variety of type styles, and hard hyphens and spaces.

And other functions found in the new version include easier access to print styles, faster screen response, better block manipulation commands, and automatic text reformatting. *Word Processing 2.0* costs £59.80.

Scandinavian PC Systems's *Box Drawing Program* is the ideal way to supplement your word processor. Simple boxes, organisation charts and flow diagrams can be added to a text file to improve its presentation.

The program is transparently RAM-resident, as the jargon goes, which means you load it with your word processor but aren't worried by it till you want to be. A user-specified key calls *Box Drawing Program* into action, and it can later be deactivated with ESC. Priced at £30.99, the Box Drawing Program is fully compatible with other Scandinavian PC Systems products – and, more importantly, with any monitor.

All these products are available on both 3.5-inch and 5.25-inch disk formats. Prices include VAT, postage and packing.

Scandinavian PC Systems (UK): *PO Box 215, Uxbridge UB10 8TG* ☎ (0895) 679366.

## Anyone for Archimedes art?

*Artisan* is the top-selling application package on the Archimedes, according to publishers Clares Micro Supplies. And now they've released its successor, *ProArtisan*, which works in the machine's Mode 15 and thus has 256 colours. (The original *Artisan* had only a 16-colour palette.)

The FILL menu has been extended to include graduated vertical, horizontal and circular fills. The relative size of the graduations and the shade direction are both controlled by the user. Graduated fills are particulary useful for drawing realistically-shaded objects in a matter of seconds.

The TOOLKIT menu has also been expanded, to include a font designer which also includes a function to set the leading (space between lines).

Other improvements include an expanded SPRITE menu with the ability to cut and paste irregularly-shaped sprites, airbrush on the DRAW menu, and a distortion facility which scales and distorts a sprite into any regular or irregular shape.

19 printer drivers provide the output for mono and colour printers such as the Epson FX series, Hewlett-Packard laser printers, and compatibles.

*ProArtisan* costs £169.95. Clares Micro Supplies: *98 Middlewich Road, Northwich, Cheshire CW9 7DA* ☎ (0606) 48511.

■ Clares have also released an upgraded version of *Toolkit*, their Archimedes hard-disk management system.

Called *Toolkit +*, it provides colour display in Mode 12 and includes new commands to move immediately to a particular memory address, search for files given multiple parameters (eg all files starting with the same letter *and* created on the same date), and archiving to make backup easier.

The list price is £49.95, but existing *Toolkit* users can upgrade for £24.95.

## Longer life for ribbons and edge connectors

Reinking printer ribbons and replacing ribbon cartridges are among the dirtier common jobs. But did you know that ribbons can last up to three times their normal life span if treated with WD-40?

Using a small paintbrush or stamp pad, just dab WD-40 onto the ribbon (but don't soak it) and hey presto! you've saved yourself pounds and pounds.

Often, the metal on edge connectors reacts with the air, causing oxidation – then low-current signals can be lost, screwing up the computer's performance.

To cut down on oxidation (and save yourself the trouble of replacing the edge connector), clean edge connectors regularly with WD-40 applied to a cotton swab.

WD-40, available in many high-street chainstores, is also useful on stuck keyboard keys or any moving parts of the computer mechanism. It's not greasy and doesn't not attract dust – wouldn't life be easy if everything were so dependable?

# What will they think of next?

**MGA, that is – in last month's TGM we heard about MGA SoftCat's stargazing astrology software, and now here they are with products ranging from the really useful (printer mufflers, low-cost DTP) to the . . . do you really need a mouse clip?**

**MGA SoftCat and MGA Microsystems are both at Pear Tree, Appledore, Kent TN26 2AR ☎ (0233) 83571.**

## Sssshhhhh, I'm using the phone

Noisy printers have been the cause of many an office battle. Screeching printheads grate on the nerves. Blood has been shed over the scrumpling sound of a malfunctioning sheet-feeder.

But a Kensington Printer Muffler can reduce printer noise by up to 85%. The Printer Muffler 80 (£59.95) fits most standard carriage printers while the Printer Muffler 132 (£79.95) fits most wide-carriage printers. Both come complete with transparent lids to keep noise in and dust out!

Also available for £29.95 is the Printer Muffler Stand, which raises both your printer and Printer Muffler to allow paper storage underneath.

## World saved by gadget

That's the way you'd think it was reading MGA SoftCat's bumph about the Trim Trak Margin Removal System. Yes . . . just as you thought, it's a 'handy friend' which clips onto the holes in those pesky perforated margins and pulls them off, leaving a nice uncomputerish sheet of paper. Image freaks will love it at £12.95.

## Cheap PC DTP

MGA Microsystems are touting a new version of the low-cost DTP package *NewsMaster*, for PC-compatibles.

For *NewsMaster II* (£69.99 including postage and packing – very cheap for DTP) they claim more flexible layout facilities, 30 fonts, 250 pieces of art, support for other 100 printers, ability to import files from Lotus's *1-2-3* and *PC Paintbrush*, and above all simplicity.

For more info on cheap DTP, see Back Bytes, TGM**013**.

### Gi's a job, guv

For PC users with itchy feet, they're also selling *The Resume Kit* from Spinnaker – 'resume' is the American term for CV, and this £39.95 package apparently helps you summarise the story of your life so far for potential employers. A word processor and 100,000-word spell-checker are included.

### Taking the prize

Also available for PC-compatibles at £29.95 is *Award Maker Plus*, a specialist DTP program for creating awards, certificates etc – could be useful if you run any kind of club. The two-disk package supports mono and colour output, comes complete with border designs and several fonts, and has a mail-merge facility (you can create a list of names and automatically print out personalised awards for each of them).

## A hole for mice

Claiming it's a 'long-awaited computer system aid', MGA Microsystems are selling a mouse bracket which clips the rodent controller wherever you like when it's not in use – on the desk, perhaps, or the side of the monitor. Measuring 78mm by 68mm by 36mm, a common mouse size, it's £4.95.

## Brat-compatible

How do you shut little brothers and sisters up? Try a PC – MGA SoftCat are selling a series of illustrated interactive bedtime stores for £24.95 each, including *Jack And The Beanstalk*. They're like very simple adventure games; you make decisions at key points in the story.

Not surprisingly, they're from America and come complete with emotional advertising about binding the family together, etc etc.

Both 3.5-inch and 5.25-inch disk versions are available, but CGA is required.

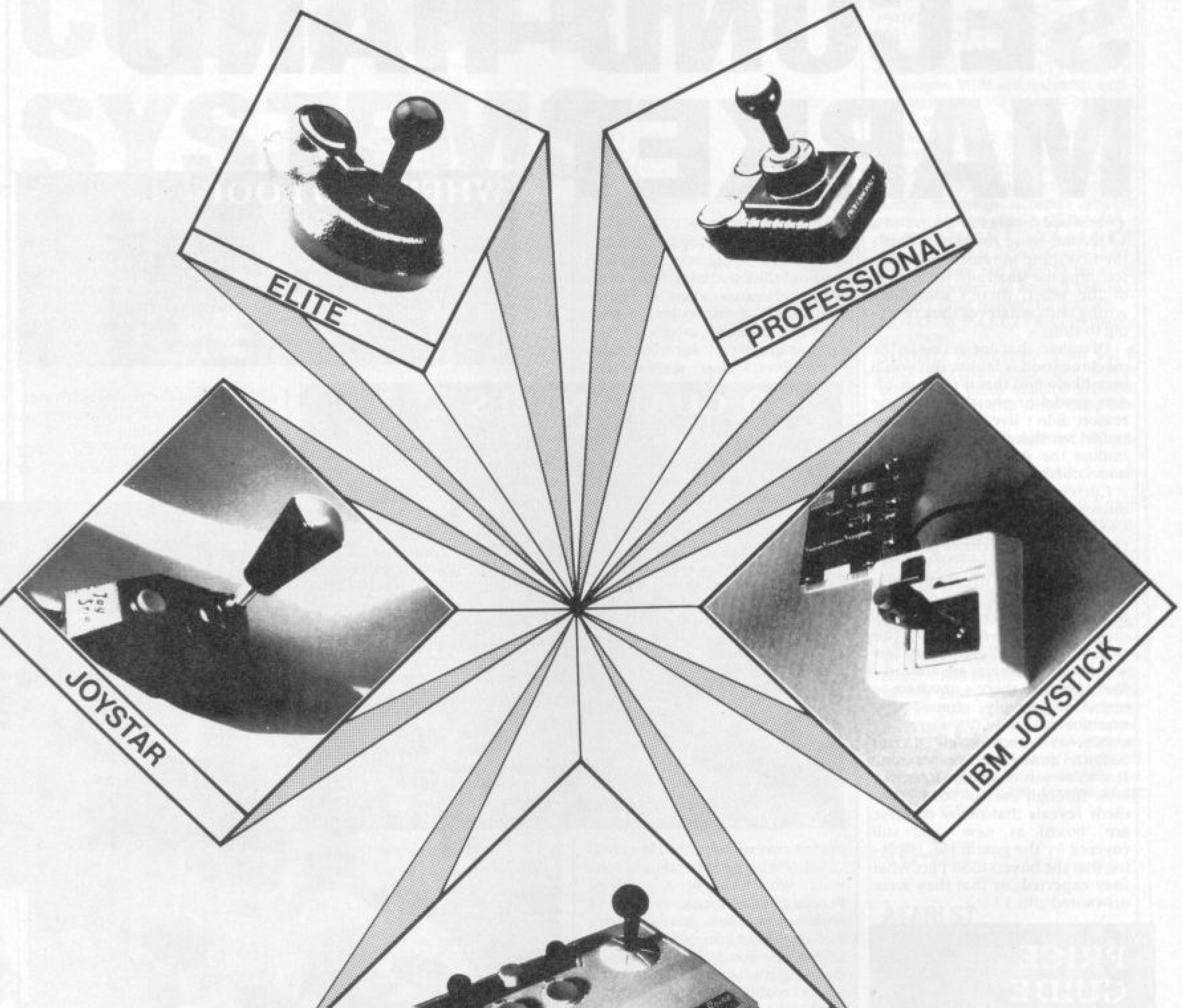
## The house beautiful

Prince Charles would be pleased – *Design Your Own Home*, a three-program package from MGA Microsystems puts architecture firmly in the hands of ordinary folk who know what they like and like what they know.

Costing £97.95 together for PC-compatibles and £67.95 *each* for Apple II, the trio consists of *Architectural Design* (floor plans, side views), *Interior Design* (arranging furniture) and *Landscape Design*.

*Architectural Design* sounds the most useful, as it calculates distances and angles and comes with a library of 126 detailed design elements – or you can create your own.

# The world's leading brand for the real games competitor




# Have you got your hands on one yet?

**EUROMAX**

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NORTH HUMBERSIDE YO16 4SJ, ENGLAND
TELEPHONE: 0262 601006/602541
FAX NO. 0262 400068

Please send me full details

Name

Address

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Here – and armed with this information you can bravely waltz into your local dealer and say 'I know what I want so give it to me'. It's also guaranteed to break the ice at parties.
For each machine we've listed:

■ *PRICE* (usually the recommended retail price), including VAT – unlike some reports. Computers are being sold with 'bundles' (software, joystick etc) more and more often, and prices change frequently. Sometimes particular high-street shops offer their own bundles, so shop around and watch TGM for advance reports.

■ *MEMORY* – don't be fooled by demos or publicity which show an apparently cheap machine running fantastically sophisticated software. Many computers – the ST, for instance – come in different versions with different memories, and because of chip prices, memory is currently very expensive. This is particularly important in packages using digitised graphics or sampled music.

Memory is measured in bytes, kilobytes (abbreviation K: 1K=1,024 bytes), or megabytes (abbreviation Mb; 1Mb=1,048,576 bytes).
A few expensive models have hard disks – literally that, hard disks built into the computer. They're useful for storing frequently-used applications software, because you can load from them much quicker than from a disk or tape drive ('external drive'). But for gamers, they're really a waste of money.

■ *PROCESSOR*. The important aspects of a processor are a) word length and b) speed. A high word length and high speed mean complex graphics can move very quickly (and number-crunching in applications like databases is speeded up too).

Word length is usually 8, 16 or 32 bits – a 16-bit machine can process twice as much information at one go as an 8-bit machine. Speed is measured in megahertz (MHz), which means 'million things done each second'.

So a machine like the Sinclair Professional PC, which has a processor running at 8 MHz, can do 8 million things every second – though each word takes several separate operations to process.

Most personal computers have one processor to make the software do its stuff; some, like the Amiga, also have 'dedicated' processors to handle graphics and sound, which speeds them up.

■ *RESOLUTION*, or the number of pixels on the screen. High resolutions mean more detailed, realistic graphics.

Resolution is measured with two numbers: number of pixel rows across the screen x number of pixel rows down the screen.

However, high resolutions can generally use fewer colours together on the same screen, because they take more memory. Under this heading we've noted how many colours are available onscreen at any one time.

■ *COLOUR PALETTE* – the total number of colours available on the computer (though not at the same time!).

■ *SOUND*. The important factors here are channels (the number of different pitches that can be played at a time) and pitch range (measured in octaves – an octave is the distance from, say, one C to the next on the piano).

More channels give a richer, less tinny sound.

■ *VIDEO*. Most games computers can be connected to the TV or to a monitor, via a lead which plugs into a port.

Today, most monitor output is the high-quality RGB standard. But some older machines (such as BBC and MSX micros) use composite video output, which doesn't allow such high resolution.

■ *SOFTWARE FORMAT*. Software comes on tape, disk or (for consoles) cartridge. Generally this isn't a factor in purchasing – if the machine is important enough, people will produce software for it. However, there are a few considerations . . .

Tapes are notoriously slow to load (and less reliable than disks). Amstrad's 3-inch disks are used only on their CPC, PCW and Spectrum +3 models, which means graphics, words etc stored on them cannot be used in another machine without communications software and hardware.

And if you buy a PC-compatible, try to go for one with a 3.5-inch disk drive – 5.25-inch disks are fast becoming unpopular, and the software supply in that format may dry up.

Also, if you're doing more than playing games, make sure the machine can format large-memory disks (all blank disks must be formatted before use). It could be frustrating to write a 450K masterpiece if all you've got is an Atari 520 STFM – yes, the memory can handle it, but disks formatted by this model can only take 360K of data.

Blank disks usually cost around £3.

■ *PORTS*. Joysticks, printers, modems, mice, MIDI music equipment, extra disk drives etc all plug into special ports. Make sure the model you choose has all the ports you need – and where salesmen are concerned, never take 'probably' for an answer.

■ *SOFTWARE*. It's obvious but . . . that incredibly fast, cheap new wonder is useless unless there are some games to run on it!

## 32-BIT

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***MEMORY*** 305 models 512K, 310 models 1Mb.
***PROCESSOR*** 32-bit Acorn ARM, 4 MHz. RISC (Reduced Instruction Set Computing) technology increases program speed but its real value is still debated.
***RESOLUTION*** 320x256 (up to 256 colours onscreen), 640x256 (up to 16 colours onscreen) and 640x512 (up to 16 colours onscreen but needs a multisync monitor). Great potential for graphics.
***COLOUR PALETTE*** 4,096 colours and shades.
***SOUND*** 16 channels (8 left and 8 right). 6-octave range. One built-in speaker but stereo output is available. Excellent sound chip rivals many low-cost synthesizers.
***VIDEO*** Composite video and RGB outputs. No TV output.
***SOFTWARE FORMAT*** 3.5-inch disks. Formats to 800K.
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## 16-BIT

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***RESOLUTION*** 640x400 in monochrome display, 640x200 in 4-colour display and 320x200 with 16 colours onscreen.
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***SOUND*** 3-channel 8-octave through TV or monitor.
***VIDEO*** RGB. TV port on 520 model, and expected for future 1040 models.
***SOFTWARE FORMAT*** 3.5-inch disks. 520 model formats to 360K, 1040 model to 720K.
***PORTS*** 5-pin MIDI in and out. RGB. Serial modem. Two mouse/joystick ports. Cartridge. Second disk drive. Hard disk. TV port (only on 520 model at present).
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PRESS ANY KEY

been rapidly growing during 1988. Most new 8-bit releases are now converted to the ST. Though the sound chip is poor compared with the C64 and the Amiga, the ST now dominates music software because of the built-in MIDI ports.

## COMMODORE AMIGA

***PRICE*** The Amiga A500 including one built-in external disk drive, 'free software' and a TV modulator is £399.99. Without software and modulator, they can be found cheaper if you shop around. The Amiga A1000 is only available second-hand. The Amiga A2000 starts at £1,489.25 including mouse. Packages including the A2000, a monitor and a hard disk are also available.
***MEMORY*** A500 model 512K, A1000 model 256K, A2000 model 1Mb.
***PROCESSOR*** 16-bit Motorola 68000, 7.14 MHz. The processor runs slightly slower than the ST's but specialist graphics, video and sound chips effectively make the Amiga faster than the ST for games.
***RESOLUTION*** Several modes from 320x200 (32 colours onscreen) to 640x400 (16 colours onscreen). Some art packages offer an additional Hold And Modify (HAM) mode which allows all 4,096 colours onscreen.
***COLOUR PALETTE*** 4,096 colours and shades.
***SOUND*** 4-channel, 9-octave range. Stereo output through monitor, TV or hi-fi system. Built-in synthesizer 'speaks' typed-in text.
***VIDEO*** No built in TV port but a modulator is available. RGB output to monitor.
***SOFTWARE FORMAT*** 3.5-inch disks. Formats to 880K.
***PORTS*** Audio left and right, two joystick/mouse, RS-232 serial, Centronics parallel, RGB, additional disk drive, monochrome video, expansion bus. No built-in MIDI port – a serious problem for musicians.
***SOFTWARE*** More is coming out, but on the games front the Amiga is still behind the ST and 8-bit computers. Over 1,000 business and applications programs are available.

## PC-COMPATIBLES

***NOTE*** The original PC was produced by IBM in 1982. But though IBM are still the largest single PC producer, selling about 28% of all PCs, dozens of others produce 'compatibles' which run the same software and are often seen as better value.
***PRICE*** Prices start from £343.85 (Sinclair Professional PC without monitor) and rise . . . as high as £9,000 (Compaq DeskPro 386).

Affordable models include Commodore PC1 (effectively the cheapest – £369.99 with mono monitor), Olivetti Prodest PC1 (£399 with mono monitor), and Amstrad PC1512 (£458.85 with mono monitor).

PCs are usually sold with monitors.
***MEMORY*** From 256K upwards; at least 512K is recommended.
***PROCESSOR*** PC-compatibles are usually described as 16-bit, but in fact there are 8-bit and 32-bit models as well. Early PCs used the 8-bit Intel 8088; most now use the 16-bit Intel 8086; and the expensive new generation uses the 16-bit Intel 80286 or 32-bit 80386.

Speed on cheap machines ranges from 4.77 MHz (eg Commodore PC1) to 8 MHz (eg Amstrad PC1640).
***RESOLUTION*** Originally designed as a business machine, the PC had very basic graphics. But there are now three major PC colour graphics standards:
■ CGA (Colour Graphics Adapter), at 320x200 (4 colours) or 640x200 (mono);
■ EGA (Enhanced Graphics Adapter) at 640x200 ('200-line mode') or 320x350 ('350-line mode') (both 16 colours);
■ and VGA (Virtual Graphics Array) at 640x480 (2-colour and 16-colour modes). But this is rare and expensive, and doesn't work with standard RGB monitors.

Some PC-compatibles have built-in CGA, EGA or VGA – check which – and add-on graphics boards (or 'display adapters') are now available from about £100.

There are also many other, rare standards, including Hercules and MDA – both mono only.

If you buy a PC with VGA or EGA and acquire the monitor separately, it's *very important* to check that the monitor supports the PC's graphics modes!
***COLOUR PALETTE*** EGA 64 colours and shades, CGA 16.
***SOUND*** One channel, but the speed of the processor allows pseudo-three-channel sound to be produced. Not designed as a music machine.
***VIDEO*** No TV port. Output usually via RGB.
***SOFTWARE FORMAT*** Older models mainly have one or two external drives for 5.25-inch disks, but 3.5-inch disks and drives are taking over. All drives format disks to 360K; some do more.
***PORTS*** Vary from model to model. Most have expansion, RS-232 serial and Centronics parallel ports.
***SOFTWARE*** Huge range of utilities – word processors etc (because about 25 million PC users worldwide). Also more games than you might expect, largely because of the many PC game-players in America. However, poor display and sound are problems and PC-compatibles are not recommended if you're only into games, graphics or music. If buying a PC for utilities, check which version of MS-DOS or PC-DOS operating system is supplied – a primitive version older than MS-DOS 3.2 or PC-DOS 2 may cause problems.

# *8-BIT*

## *ACORN BBC*

***NOTE*** The BBC has appeared in many models: BBC A, BBC B, BBC B+, BBC Master Series and BBC Master Compact. Only the last two are now available. Listed below are the specifications for the BBC Master Compact.

Despite its name, the BBC range has always been produced by Acorn (who now do the Archimedes). But when the British Government decided to put computers in schools, they called on Auntie Beeb to provide a specification for manufacturers to work to – and Acorn got the contract.
***PRICE*** Master 128 £458.85; Master Compact £396.75 on its own, £417.45 with TV modulator, £458.85 with mono monitor, £626.75 with colour monitor.
***MEMORY*** 128K.
***PROCESSOR*** 8-bit 65C12.
***RESOLUTION*** Several modes, ranging from 160x256 (16 colours onscreen) to 640x256 (black and white).
***SOUND*** 4-channel 6-octave output through internal speaker.
***VIDEO*** Composite Video, RGB, optional TV modulator available.
***SOFTWARE FORMAT*** Cassette and disk.
***PORTS*** 50-way expansion port, joystick/mouse port, Centronics parallel, PCB Shugart standard disk drive interface.
***SOFTWARE*** There's a vast range of educational software and applications, because until recently the BBC was the most common computer in British schools (it's now being overtaken by PC-compatibles and, occasionally, STs and Amigas). A few games still appear.

## AMSTRAD CPC

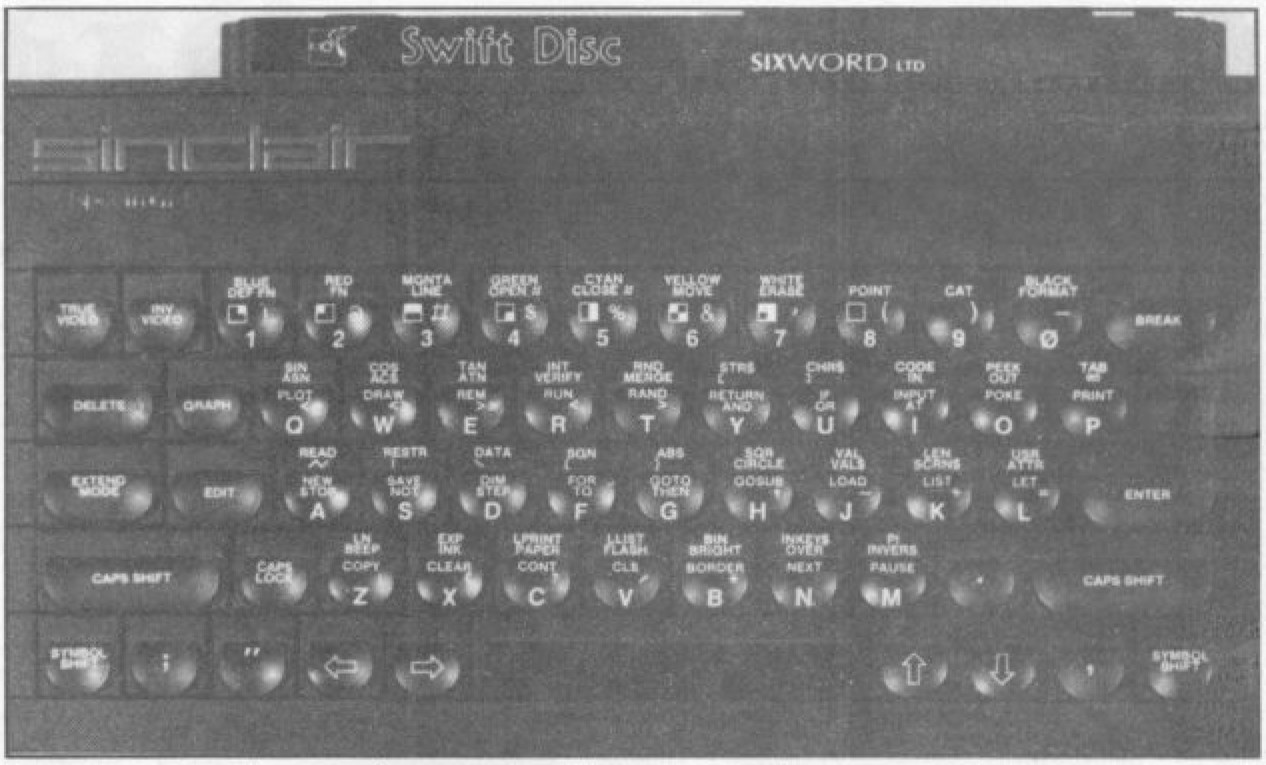
***PRICE*** The CPC464 (built-in tape deck) is £199 with green-screen monitor or £299 with colour monitor. CPC664 models are no longer produced. The CPC6128 (one built-in external disk drive) is £299 with green-screen monitor or £399 with colour monitor.
***MEMORY*** CPC464/CPC664 64K, CPC6128 128K.
***PROCESSOR*** 8-bit Zilog Z80, 4 MHz.
***RESOLUTION*** 160x200 (up to 16 colours onscreen), 320x200 (4 colours) or 640x200 (mono).
***COLOUR PALETTE*** 27 colours and shades.
***SOUND*** 3-channel 8-octave through built-in speaker, but stereo output is available. Sound quality is reminiscent of early arcade machines. No MIDI ports.
***VIDEO*** Monitor supplied with all models. RGB sync output.
***SOFTWARE FORMAT*** Tape or 3-inch disk. Disk drives format to 180K on each side.
***PORTS*** CPC464 has Centronics parallel, 6-pin DIN RGB with sync luminance, 3.5mm stereo socket, joystick, PCB extension port for disk drive and RS-232 serial interfaces. CPC664/6128 have Centronics parallel, 6-pin DIN RGB with sync luminance, 3.5mm stereo socket, joystick, cassette port, PCB extension port and second disk drive port.
***SOFTWARE*** Most Spectrum and C64 games are converted to the CPC but they tend to run slightly slower. Also a good selection of word-processing, graphics and music packages.

## COMMODORE C64/C128

***PRICE*** C64 is £149.99 including dedicated Commodore cassette deck and ten games. C128D including disk drive £399.99.
***MEMORY*** C64 64K, C128/C128D 128K.
***PROCESSOR*** C64 8-bit 6510 2 MHz, C128/C128D 8-bit 6502 plus 8-bit Zilog Z80, 4 MHz.
***RESOLUTION*** C64 320x200 (8 colours onscreen, but attribute system limits the number of colours that can be placed adjacent to each other). C128/C128D in 128K mode has a resolution of 640x200.
***COLOUR PALETTE*** 16 colours and shades.
***SOUND*** 3-channel 8-octave sound



chip which outputs through the monitor/ TV. The 6581 SID chip (Sound Interface Device) is one of the most sophisticated sound chips on a 8-bit computer.
***VIDEO*** TV ports on all models. C64 has a composite video port, C128/C128D both have RGB ports for an 80-column display.
***SOFTWARE FORMAT*** Tape or 5.25-inch disk (C128D only). Two external 5.25-inch drives are available at extra cost from Commodore – the C1541 (formats to 140K) and the C1571 (formats to 340K). Blank disks very cheap but easily damaged.
***PORTS*** RGB (C128/C128D), composite video (C64), two joystick ports, cassette, TV, expansion port, serial (nonstandard), user port.
***SOFTWARE*** The Commodore 64 is an old computer with years' worth of games and utilities, many imported from America. Many users, so new software likely to flow for some years yet. Z80 chip on C128/C128D allows it to run software written for CP/M operating systems (as found on Amstrad PCW8256 'Joyce', PCW9512, and CPC6128, and Spectrum +3).




## MSX-II

***NOTE*** MSX and its successors, MSX-II and MSX-II+, are not brand names of actual machines – MSX is a compatibility standard, or a set of rules for designing computers, developed by Japanese inventor Kay Nishi in the early Eighties.

The situation is a bit like that of PC-compatibles: many manufacturers have produced MSX machines, but basically the same software runs on them all. The most famous MSX manufacturers are Sony.
***PRICE*** Prices start from about £340 and rise according to model. The MSX-II+ (see TGM**014** news) is not yet available in Britain.
***MEMORY*** Models range from 64K to 256K.
***PROCESSOR*** 8-bit Zilog Z80A, 3.57 MHz.
***RESOLUTION*** Various modes: 512x212, 256x212, 512x424 (interlace).
***COLOUR PALETTE*** 256 colours and shades. The MSX-II+ has 19,268 colours!
***SOUND*** 3-channel 8-octave sound chip which outputs through monitor/TV.
***VIDEO*** TV port and SCART plug for RGB monitors.
***SOFTWARE FORMAT*** Tape, ROM cartridge or 3.5-inch disk.
***PORTS*** Varies according to model but most include TV, Centronics parallel, two joystick ports, MSX expansion port, DIN plug to connect to cassette recorder, and cartridge port.
***SOFTWARE*** Plenty of games and applications are available, but don't expect to find much in the high street. The most well-known MSX supporters in Britain are Konami, who run a users' software club – (0626) 56789.

MSX software is upwardly compatible – that is, software written for the MSX will run on the MSX-II and the MSX-II+ (but not vice versa!).

The MSX machines have the same BASIC programming language (called MSX BASIC, predictably enough) and the same Microsoft operating system (MSX-DOS).

## SINCLAIR ZX SPECTRUM

***NOTE*** The Spectrum, now manufactured by Amstrad, has appeared in many models: 16K, 48K, 48K+, 128K+, +2, +3 and +2A. Only the last three are now available new.
***PRICE*** +2/+2A with built-in tape deck costs £139; +3 with one built-in external disk drive £199. Other models available very cheap second-hand.
***MEMORY*** Mostly obvious from names! +2/+2A and +3 have 128K.
***PROCESSOR*** 8-bit Zilog Z80, 4 MHz.
***RESOLUTION*** 256x192 (eight colours onscreen, but only two colours can be used in any given 8x8-pixel block. This often causes 'colour clash' in games that use a lot of colour.)
***COLOUR PALETTE*** 8 colours, can be increased to 16.
***SOUND*** 128K+, +2, +2A and +3 have 3-channel output via monitor or TV. 16K/48K/48K+ have 1-channel output via built-in speaker.
***VIDEO*** All have TV port. 128K+, +2 and +3 also have RGB ports.
***SOFTWARE FORMAT*** Mostly tape. Early models load from ordinary cassette player (extra cost), +2 has built-in tape deck. +3 takes 3-inch disks though many people prefer to use tape because of disk-loading problems; one built-in reversible single-sided external disk drive can format disks to 180K each side.
***PORTS*** 16K/48K/48K+ expansion port, two 3.5mm jack sockets to connect the Spectrum to a tape recorder and a TV port.

128K+ has expansion port, TV port, Vero phone connector for MIDI/RS-232 serial, two 3.5mm jack sockets, RGB port, Vero phone connector for add-on keypad.

+2 has expansion port, TV port, RGB port and Vero phone connectors as 128K+; also two nonstandard joystick ports and a 3.5mm socket for outputting sound.

+3 is as 128K+ and also has Centronics parallel printer port and port for second disk drive. Early +3s have two 3.5mm audio in/out jack sockets, later models have one which performs the same function. Also MIDI port on the later models.

The recently-released +2A is technically virtually identical to the +3, apart from the fact that it has no disk drive. On the outside, it looks like a +2 except that it's black, rather than grey. However, it has several serious incompatibility problems and will not work with many +2 add-ons.
***SOFTWARE*** The Spectrum is the biggest-selling home computer in the UK and (at an informed guess) at least 2,000 games are available. Until the growth of 16-bit this year, most of the great classics were Spectrum titles – many still are. A wide range of utilities is also available, but the machine is inadequate for graphics work. Slow/unreliable loading and small memory cause severe problems with any data processing (eg accounting, word processing).

# CONSOLES

## NINTENDO ENTERTAINMENT SYSTEM

***PRICE*** The standard version includes console, game controller (used instead of keyboard/joystick) and one game at £99.95. The Deluxe version includes game controller, light gun, ROB (Robotic Operated Buddy) robot and two games at £149.95.
***MEMORY*** Not known, but software cartridges are mostly 256K.
***PROCESSOR*** 8-bit.
***RESOLUTION*** 256x240 (up to 52 colours onscreen).
***COLOUR PALETTE*** 52 colours and shades.
***SOUND*** 3-channel sound including speech synthesis played through a TV.
***VIDEO*** TV only. The Nintendo cannot be used with a monitor.
***SOFTWARE FORMAT*** Special unerasable Nintendo cartridge. Despite some efforts by independent firms, no disk or tape software is available for the Nintendo. The Japanese-owned manufacturer once developed a disk drive but abandoned it because of piracy problems.
***PORTS*** Game controller, TV, cartridge.
***SOFTWARE*** Games only, £20-£25 each. So far little software has been released in the UK, though hundreds are available in Japan and the US (see Back Bytes, TGM**012**). Nintendo now promise at least two new games per month in the UK – look for the TGM reviews.

## PC ENGINE

***PRICE*** £175 for console, power pack, joypad and monitor interface (RGB or SCART). Not in shops but available mail-order: watch TGM for ads.
***MEMORY*** NEC, the Japanese manufacturers, are secretive. Believed to very large.
***PROCESSOR*** Secret again. Believed to be a specially-designed 8-bit chip, though some reports say 16-bit.
***RESOLUTION*** 320x256 (up to 32 background colours and 32 sprite colours onscreen).
***COLOUR PALETTE*** 512 colours and shades.
***SOUND*** 6-channel through TV or monitor.
***VIDEO*** TV or monitor (via supplied interface).
***SOFTWARE FORMAT*** Special unerasable PC Engine cartridge – no tapes or disks. CD-ROM games (loaded from disks like music CDs) are becoming available in Japan.
***PORTS*** Cartridge slot, one joystick port, large expansion port (possibly to connect PC Engines for two-player games).
***SOFTWARE*** ***Games only. About a dozen are available in the UK.***

## SEGA MASTER SYSTEM

***PRICE*** Games console including light gun, game controller and one game retails at £79.95.
***RESOLUTION*** 256x192 (up to 64 colours onscreen).
***COLOUR PALETTE*** 64 colours and shades.
***SOUND*** 3-channel sound played through TV.
***VIDEO*** TV only. The Sega cannot be used with a monitor.
***SOFTWARE FORMAT*** Special unerasable Sega cartridge – no tapes or disks,
***PORTS*** Cartridge slot, two game controller ports (for two-player games) and TV port.
***SOFTWARE*** Games only, mainly conversions of Sega coin-op games. After a lukewarm start, the Sega was selling like hot cakes in late 1988 and we predict good software support.

*This section is updated every month and we make every effort to ensure the information is accurate. Let us know if we've missed anything!*

# GIFFORD

21 WHERNSIDE AVENUE,
LANCASHIRE
TELEPHONE 061-330 9939

| TITLE | AMIGA | ST |
|---|---|---|
| 16 Bit Compilation | – | 18.75 |
| 19 | 14.95 | 14.95 |
| 1943 | 18.75 | 14.95 |
| 221b Baker Street | – | 18.75 |
| 4 Way Football | – | 14.95 |
| 4 & 4 Off Road Racing | 18.75 | – |
| 5 Star Compilation | – | 18.75 |
| 500cc Grand Prix | – | 14.95 |
| Action Service | 14.95 | 14.95 |
| Action Sports Pack | – | 14.95 |
| Advanced Art Studio | – | 18.75 |
| Afterburner | 14.95 | 14.95 |
| Airball | 14.95 | – |
| Alien Syndrome | 14.95 | 14.95 |
| Alternative World Games | – | 14.95 |
| Altair | 18.75 | – |
| Amazon Adventure | – | 14.95 |
| American Pool | – | 7.50 |
| American Pool Simulator | – | 7.50 |
| Annals of Rome | 18.75 | 18.75 |
| Aquaventurer | 18.75 | 18.75 |
| Arcade Classics Vol. I | – | 14.95 |
| Arcade Classics Vol. II | 14.95 | – |
| Arkanoids | 18.75 | 11.25 |
| Arkanoids II | – | 14.95 |
| Army Moves | 14.95 | 14.95 |
| Art Directors | – | 37.45 |
| Astoroth | 14.95 | 14.95 |
| Atrurus | – | 14.95 |
| B24 | – | 18.75 |
| Backlash | 14.95 | 14.95 |
| Bad Cat | 18.75 | 14.95 |
| Balance of Power | 22.45 | 22.45 |
| Ballblazer | – | 14.95 |
| Ball Breaker II | – | 14.95 |
| Ball Raider | 14.95 | – |
| Barbarian (Psygnosis) | 18.75 | 18.75 |
| Barbarian (Palace) | 14.95 | 11.25 |
| Barbarian II | 14.95 | 14.95 |
| Battle Probe | – | 11.25 |
| Battleships | 14.95 | 11.25 |
| Bermuda Project | 18.75 | 18.75 |
| Better Dead Than Alien | 14.95 | 14.95 |
| Beyond The Ice Palace | 18.75 | 14.95 |
| Beyond Zork | 18.75 | 18.75 |
| Bionic Commando's | 18.75 | 14.95 |
| Bismark | – | 18.75 |
| Black Lamp | 14.95 | 14.95 |
| Black Tiger | 18.75 | 14.95 |
| Blue War | – | 14.95 |
| BMX Simulator | 11.25 | 11.25 |
| Bob Winner | – | 14.95 |
| Bomb Busters | 14.95 | – |
| Bomb Jack | 14.95 | 14.95 |
| Bone Cruncher | 11.25 | – |
| Breakers | – | 22.45 |
| Bridge Player 2000 | – | 14.95 |
| Brainstorm | 7.50 | – |
| Bubble Bobble | 14.95 | 14.95 |
| Bubble Ghost | 18.75 | 14.95 |
| Buggy Boy | 14.95 | 14.95 |
| Bureaucracy | – | 16.49 |
| California Games | 18.75 | 14.95 |
| Captain America | – | 14.95 |
| Captain Blood | 18.75 | 18.75 |
| Carrier Command | 18.75 | 18.75 |
| Casino Roulette | 14.95 | 14.95 |
| Chamonix Challenge | 18.75 | 14.95 |
| Championship Cricket | 11.25 | 11.25 |
| Championship Golf | 26.25 | – |
| Charlie Chaplin | 18.75 | 14.95 |
| Check Mate | – | 7.50 |
| Chess | – | 18.75 |
| Chess 89 | – | 18.75 |
| Chubby Gristle | 14.95 | 14.95 |
| City Defence | 11.25 | – |
| Classiques I | – | 14.95 |
| Colonial Conquest | – | 22.45 |
| Colossus Chess 4 | 18.75 | 14.95 |
| Computer Hits | 22.45 | 22.45 |
| Corruption | 18.75 | 18.75 |
| Crack | 14.95 | – |
| Craps Academy | 18.75 | – |
| Crash Garrett | 18.75 | 11.25 |
| Crazy Cars | 18.75 | 14.95 |
| Cybernoid | 14.95 | 14.95 |
| Cybernoid II | 14.95 | 14.95 |
| D.T. Olympic Challenge | 18.75 | 14.95 |
| Daley Thompson Superfest | 18.75 | 14.95 |
| Darius | – | 14.95 |
| Dark Castle | 18.75 | 18.75 |
| Death Strike | – | 11.25 |
| Deep Space | 26.75 | 26.25 |
| Defender of the Crown | 22.45 | 22.45 |
| Deflektor | – | 14.95 |
| Deja Vu | 18.75 | 18.75 |
| Deskwrite | – | 11.25 |
| Desolator | – | 14.95 |
| Diablo | – | 14.95 |
| Digi Drum | – | 18.75 |
| Disk Library | – | 7.50 |
| Double Dragon | 14.95 | 14.95 |
| Dreadnought | 14.95 | 14.95 |
| Dungeon Master | 18.75 | 18.75 |
| E.P.T | – | 18.75 |
| Eco | 18.75 | 14.95 |
| Eddie Edwards Super Ski | – | 14.95 |
| Elf | 14.95 | 14.95 |
| Eliminator | 14.95 | 14.95 |
| Elite | 18.75 | 18.75 |
| Emerald Mine | 14.95 | – |
| Empire Strikes Back | 14.95 | 14.95 |
| Enduro Racer | – | 14.95 |
| Enforcer | – | 7.50 |
| Enlightenment (Druid II) | 14.95 | – |
| Epyx on ST Ed. 2 | – | 18.75 |
| Espionage | 14.95 | 14.95 |
| Exolon | 14.95 | 14.95 |
| Extensor | – | 7.50 |
| F15 Strike Eable | – | 18.75 |
| F16 Combat Pilot | – | 18.75 |
| Faery Tale Adventure | 18.75 | – |
| Federation of Free Traders | 22.45 | 22.45 |
| Film Director | – | 39.95 |
| Final Assault | 18.75 | 14.95 |
| Final Frontier | – | 18.75 |
| Fire & Forget | 18.75 | 18.75 |
| Fire Blaster | 7.50 | 7.50 |
| Flight Sim. II | 29.95 | 29.95 |
| Flintstones | 14.95 | 14.95 |
| Football GFL | 18.75 | 18.75 |
| Football Manager | – | 11.25 |
| Football Manager II | 14.95 | 14.95 |
| Formula One Grand Prix | 14.95 | 14.95 |
| Foundations Waste | 18.75 | – |
| Fright Night | 18.75 | 14.95 |
| Frost Byte | 11.25 | 11.25 |
| Gambler | – | 11.25 |
| Garfield | 14.95 | 14.95 |
| Gary Lineker Super Skill | – | 14.95 |
| Gato | – | 22.45 |
| Guantlet | 18.75 | 18.75 |
| Gauntlet II | – | 14.95 |
| Get Dexter II | 18.75 | 11.25 |
| Gnome Ranger | 11.25 | 11.25 |
| Gold Digger | – | 14.95 |
| Goldrunner | 18.75 | 18.75 |
| Goldrunner II | – | 14.95 |
| Goldrunner II Scen. Disks | – | 4.45 |
| Golden Path | 14.95 | – |
| Gold Rush | – | 14.95 |
| Gorilla Wars | 18.75 | 14.95 |
| Great Gianna Sisters | 18.75 | 14.95 |
| Guild of Thieves | 18.75 | 18.75 |
| Gunship | 18.75 | 18.75 |
| Hacker | 7.50 | 7.50 |
| Hades Nebula | – | 7.50 |
| Hardball/Mean 18 | 18.75 | 18.75 |
| Helter Skelter | 11.25 | 11.25 |
| Hero's of the Lance | 18.75 | 18.75 |
| Hill 19 | 14.95 | 14.95 |
| Hollywood Poker | 7.50 | 11.25 |
| Hollywood Poker Pro | 18.75 | – |
| Hostages | 18.75 | 18.75 |
| Hot Ball | – | 18.75 |
| Hunt for Red October | 18.75 | 18.75 |
| Hyperbowl | – | 7.50 |
| I Ludicrus | 14.95 | 14.95 |
| Iball | – | 7.50 |
| Ikari Warriors | 18.75 | 11.25 |
| Impact | 11.25 | 14.95 |
| Impossible Mission II | 18.75 | 14.95 |
| Insanity Fight | 18.75 | – |
| Indiana Jones | – | 14.95 |
| Indoor Sports | – | 18.75 |
| Inside Outing | – | 14.95 |
| International Karate+ | – | 14.95 |
| International Soccer | 14.95 | 14.95 |
| Into the Eagles Nest | 14.95 | – |
| Jet | 29.95 | 29.95 |
| Jet Scenery Disks | 14.95 | 14.95 |
| Jet Boys | – | 14.95 |
| Jewels of Darkness | 14.95 | 14.95 |
| Jinks | 18.75 | 14.95 |
| Jinxter | 18.75 | 18.75 |
| Joan of Arc | 18.75 | – |
| Joe Blade | 7.50 | 7.50 |
| Jump Jet | 11.25 | 11.25 |
| Karate Kid part II | 18.75 | 18.75 |
| Karate King | 11.25 | – |
| Karnov | – | 14.95 |
| Kennedy Approach | – | 18.75 |
| Kill Dozers | – | 14.95 |
| King of Chicago | 22.45 | – |
| King's Quest 3 Pack | 18.75 | 18.75 |
| Knight Orc | 14.95 | 14.95 |
| Knightmare | – | 18.75 |
| L'Affaire | – | 14.95 |
| Leaderboard | 18.75 | 18.75 |
| Leaderboard collection | 18.75 | 11.25 |
| Leaderboard tournament | – | 7.50 |
| Leatherneck | 14.95 | 14.95 |
| Lee Enfield in Amazon adv. | – | 11.25 |
| Lee Enfield in Space Age | – | 11.25 |
| Lee Enfield tourn. of Dea | – | 14.95 |
| Legend of the Sword | 18.75 | 18.75 |
| Leisure Suit Larry | 22.45 | 14.95 |
| Leviathan | – | 11.25 |
| Little Computer People | 7.50 | 7.50 |
| Live and Let Die | 14.95 | 14.95 |
| Livingstone | – | 11.25 |
| Lode Runner | – | 14.95 |
| Macadam Bumper | 18.75 | – |
| Mach III | 14.95 | 14.95 |
| Mad Mix | – | 11.25 |
| Masters of the Universe | – | 14.95 |
| Mean Streak | 18.75 | 18.75 |
| Mercenary Compendium | 18.75 | 18.75 |
| Metro Cross | – | 18.75 |
| Mickey Mouse | – | 14.95 |
| Mind Fighter | 18.75 | 18.75 |
| Mindshadow | 7.50 | 7.50 |
| Mission Genocide | – | 7.50 |
| Moebius | 18.75 | 18.75 |
| Mortville Manor | 18.75 | 18.75 |
| Motorbike Madness | 7.50 | 7.50 |
| Motor Massacre | 14.95 | 14.95 |
| Mouse Trap | 11.25 | 11.25 |
| Nebulus | 14.95 | 14.95 |
| Netherworld | 14.95 | 14.95 |
| Ninja | – | 7.50 |
| Nord & Bert | 18.75 | – |
| North & Star | 18.75 | 18.75 |
| North Star | – | 14.95 |
| Not a Penny More | – | 14.95 |
| Obliterator | 18.75 | 18.75 |
| Ogre | 18.75 | 18.75 |
| Oids | – | 14.95 |
| Oops | – | 14.95 |
| Operation Neptune | 18.75 | 18.75 |
| Operation Wolf | 18.75 | 14.95 |
| Outrun | 18.75 | 14.95 |
| Overlander | 18.75 | 14.95 |
| Pac Land | 14.95 | 14.95 |
| Pandora | 14.95 | 14.95 |
| Paperboy | 18.75 | 14.95 |
| Parsian Knights | 18.75 | 18.75 |
| Passengers in Wind I & II | 18.75 | – |
| Pawn | 18.75 | 18.75 |
| Perfect Match | – | 7.50 |
| Peter Beardsley Football | 14.95 | 14.95 |
| Phantasie II | – | 18.75 |
| Phantasie III | 18.75 | 18.75 |
| Phantasm | 14.95 | 14.95 |
| Phoenix | – | 14.95 |
| Pinball Wizard | 14.95 | – |
| Pink Panther | 14.95 | 14.95 |
| Platoon | 18.75 | 14.95 |
| Playhouse Strip Poker | – | 7.50 |
| Plutos | 11.25 | 11.25 |
| Police Quest | 18.75 | 14.95 |
| Pool of Radiance | 18.75 | 18.75 |
| Ports Of Call | 29.95 | – |
| Power Struggle | 11.25 | 11.25 |
| Powerplay | 14.95 | 14.95 |
| Predator | – | 14.95 |
| Protector | 7.50 | 7.50 |
| Pub Pool | – | 7.50 |
| Quadralien | 14.95 | 14.95 |
| Quartet Gold | – | 14.99 |
| Questron II | – | 18.75 |
| Rally Simulator | 14.95 | 14.95 |
| Rambo III | 18.75 | 14.95 |
| Rampage | – | 11.25 |
| Realm of Darkness | – | 14.95 |
| Realm of the Trolls | 18.75 | 14.95 |
| Retrogue | – | 14.95 |
| Return to Genesis | 14.95 | 14.95 |
| Revenge II | – | 7.50 |
| Rings of Zilfin | – | 18.75 |
| Ringwars | – | 14.95 |
| Road Blasters | 18.75 | 14.95 |
| Roadrunner | – | 18.75 |
| Roadwar 2000 | 18.75 | 18.75 |
| Roadwar Europa | 18.75 | 18.75 |
| Roadwars | 14.95 | 14.95 |
| Rocket Ranger | 22.45 | – |
| Rockford | 14.95 | 14.95 |
| Rogue | 7.50 | 7.50 |
| Rolling Thunder | 18.75 | 14.95 |

# SOFT LTD.

ASHTON-UNDER-LYNE
OL6 8UY
(9.00am to 6.00pm)

| TITLE | AMIGA | ST |
|---|---|---|
| Rugby League | 11.25 | 11.25 |
| S.D.I. | – | 14.95 |
| Sapiens | – | 14.95 |
| Scrabble Delux | 14.95 | 14.95 |
| Screaming Wings | 11.25 | 11.25 |
| Scruples | – | 14.95 |
| Seconds Out | 14.95 | 14.95 |
| Seige on London | 14.95 | 14.95 |
| Sentinel | 14.95 | 14.95 |
| Shackled | – | 14.95 |
| Shadowgate | 18.75 | 18.75 |
| Shard of Spring | – | 18.75 |
| Sherlock | 18.75 | 18.75 |
| Shiloh | 22.45 | 18.75 |
| Shuffleboard | – | 7.50 |
| Side Arms | 18.75 | 14.95 |
| Sidewinder | 7.50 | 7.50 |
| Silent Service | 18.75 | 18.75 |
| Silicon Dreams | 14.95 | 14.95 |
| Sinbad | 18.75 | 18.75 |
| Sky Rider | – | 11.25 |
| Skyblaster | 14.95 | 14.95 |
| Slapfight | 14.95 | 14.95 |
| Slaygon | 14.95 | 14.95 |
| Soccer | – | 7.50 |
| Soccer Supremo | 11.25 | 11.25 |
| Soldier of Light | 18.75 | 14.95 |
| Solomons Key | – | 14.95 |
| Sorcery | – | 11.25 |
| Space Baller | 7.50 | 7.50 |
| Space Harrier | 18.75 | 14.95 |
| Space Harrier II | – | 14.95 |
| Space Quest II | – | 14.95 |
| Space Race | – | 18.75 |
| Space Ranger | 14.95 | 14.95 |
| Spidertronic | 14.95 | 14.95 |
| Spinworld | 14.95 | – |
| Spitfire 40 | – | 18.75 |
| Spitting Image | 14.95 | 14.95 |
| Spy Vs Spy | – | 18.75 |
| ST Compilation | – | 14.95 |
| ST Wars | – | 18.75 |
| Stac | – | 29.95 |
| Staff | – | 14.95 |
| Star Glider | 18.75 | 18.75 |

| TITLE | AMIGA | ST |
|---|---|---|
| Star Glider II | 18.75 | 18.75 |
| Star Trek | – | 14.95 |
| Star Ray | 18.75 | – |
| Star Wars | 14.95 | 14.95 |
| Starquake | – | 14.95 |
| Stellar Crusade | – | 26.25 |
| Steve Davis Snooker | 14.95 | 14.95 |
| Stir Crazy (BoBo) | 14.95 | 14.95 |
| Stockmarket | 14.95 | 14.95 |
| Stone Breaker | – | 11.25 |
| Storm Lord | 14.95 | 14.95 |
| Strange New World | 11.25 | – |
| Streets Sports Basketball | 18.75 | – |
| Street Fighter | 18.75 | 14.95 |
| Streetgang | 11.25 | 11.25 |
| Strike | – | 7.50 |
| Strike Force Harrier | 18.75 | 18.75 |
| Strip Poker II+ | 11.25 | 11.25 |
| Stuntman | 14.95 | 14.95 |
| Sub Battle Sim. | 18.75 | 18.75 |
| Summer Olympiad | – | 14.95 |
| Sundog | – | 11.25 |
| Super Cycle | – | 18.75 |
| Super Hang-On | – | 14.95 |
| Supersprint | – | 11.25 |
| Swooper | 7.50 | – |
| TT Racer | – | 18.75 |
| T.N.T. | – | 14.95 |
| Tai Pan | – | 14.95 |
| Tanglewood | 14.95 | 14.95 |
| Technocop | 14.95 | 14.95 |
| Tee Up | – | 7.50 |
| Terramex | 14.95 | 14.95 |
| Terrorpods | 18.75 | 18.75 |
| Tetra Quest | 14.95 | 14.95 |
| Tetris | 14.95 | 14.95 |
| The Deep | 18.75 | – |
| The Games Summer Edition | 18.75 | 14.95 |
| The Games Winter Edition | 18.75 | – |
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# INFORMATION DESK

**ST programming, second-hand coin-ops and computer cartooning are on the desk as our Back Bytes staff tackle your toughest questions**

## ST book learnin'

*I own an Atari ST and would like to learn 68000 machine code. Could you please recommend a good book and an assembler?*
*Lee Harris, Kingsthorpe*

You're in luck, Lee, because features on assemblers and computer books are planned for Back Bytes in the near future – see TGM**017** for a guide to programming utilities and TGM**019** for the last word on fanzines, magazines and books.

In the meantime, try *Atari ST Machine Language* (Abacus, £13.95 or £14.95 from different firms) for a good introduction to machine code. Abacus is an American company, but the book is available in the UK from several outlets including Adamsoft, *18 Norwich Avenue, Rochdale, Lancashire OL11 5JZ* ☎ (0706) 524304.

Please do *not* ring Abacus Software in Pall Mall, London, in search of this book, because they keep on getting bothered though they're nothing to do with it – as we found out!

There are many 68000 assemblers available, including some public-domain software (eg *A68, ACC13* and *ASSEM*). Commercial programs include GST's *Macro Assembler*, available from most ST mail-order companies. GST themselves are on (0954) 61258.

## Lapping it up

*Having played the excellent Final Lap by Atari in the arcades, I am interested in buying an arcade machine. How much would a second-hand machine cost and where can I get hold of one?*
*Owen Giles, Colchester*

Subscribing to *Coin Slot*, the newspaper of the coin-op industry, is your best bet. They can be contacted at *2 Daltry Street, Oldham, Lancashire* ☎ (061) 624-3687.

Prices vary according to how recent the game is. The deluxe version of *Out Run* could set you back £5,500 while an older game like *Star Wars* sells for under £500.

## Cartoon crazy

*I own an Amiga A500 and DeluxePaint. I am interested in computer animation. Could you recommend any programs? The only one I've heard of is Deluxe Video by Electronic Arts.*
*Richard Roberts, London*

*Deluxe Video* is intended for video presentations but can certainly be used for full-colour bitmapped animation, and it's fully compatible with IFF graphic packages including DeluxePaint! Credits, subtitles, captions and music scores can all be added to a presentation.

Hash Enterprises produce a low-cost package called *Flipper*, which creates short animation sequences from images you've already drawn in an art package. It costs £42 but it requires 1Mb RAM – which your A500 won't have unless its memory is souped up at a cost of about £120. Hash Enterprises are at *4 Hart Street Lane, Edinburgh, Scotland EH1 3RN* ☎ (031) 557-4242.

And then there's *MovieSetter* from Gold Disk, which Marshal M Rosenthal covered in his TGM**014** feature on the Philadelphia Commodore Show. Again, this needs 1Mb. It should be available now from HB Marketing, *Brooklyn House, The Green, West Drayton, Middlesex UB7 P7Q*, though no price was fixed last we heard.

Watch out for future articles in Back Bytes on computer-aided animation.

## Will the s*** hit this fan?

*I have some burning questions regarding starting a fanzine. Is it legal to review games without asking a software house's permission? Will I need a licence to sell my fanzine? Where can I get my fanzine duplicated?*
*Lee Feander, Dovercourt*

The answers to your first two questions are yes and no, though if you wish to sell your fanzine at school or college it's a good idea to ask a teacher's permission first. Local print shops can duplicate your fanzine for you, but schools often offer a photocopying service to pupils at reduced rates.

## Compact discussion

*I am interested in buying a CD-ROM or CDV player to link up to my Amiga. How soon will software become available on these formats?*
*Darren Cheung, New Zealand*

For a start, CDV and CD-ROM are quite different, so don't buy one if you want the other!

There is already a large selection of books and unalterable databases available on CD-ROM, though very few – if any – actual programs. A CD-ROM disk can hold up to 682Mb of information, so it would take many man-years of programming to fill up a single disk – and anyway, home computers don't have nearly enough memory to use a program that size.

We think CD-ROM will become more and more important in information retrieval but won't hit the home micro till multimegabyte memory chips are much cheaper and new processors are developed to handle that volume of memory. You'll probably see CD-ROM in the local library before it's on your desktop.

Compact-disc video (CDV) is the latest in audiovisual technology. It combines a digital stereo soundtrack with an analogue picture to give the best possible reproduction of film or music on a relatively cheap unit. It is not a storage medium for computers.

CDV discs come in three sizes – 5-, 8- and 12-inch – so conventional music CDs can also be played on a CDV machine. Larger discs store more information: up to 2 hours of sound and pictures on a 12-inch disc.

Philips produce two CDV players: the CDV475 costs £499.99 and can play all discs, while the CDV185 costs £349.99 and can only play 3-inch (music singles, no pictures) and 5-inch discs.



## Whatever you do, don't mention the interface

*I am interested in buying an Amstrad PCW8512 for word processing but have heard that some models are incompatible with some interfaces.*
*Jonathan Harris, Stirling*

Amstrad recently imported German models of the PCW8512 to cope with an increase in UK demand. It seems they were unaware of incompatibility problems between the German models and British interfaces.

Now, however, Amstrad – ever willing to please – are giving away a gismo which makes German PCWs compatible with British interfaces. If you think you've bought a German PCW, a free adaptor is available from your nearest Amstrad stockist.

## Why oh why . . .

*I am thinking of upgrading from C64 to Amiga, but I have one question. Why are Amiga games often just the same as ST games, though C64 games are often much better than the Spectrum versions?*
*John Hughes, Swindon*

Spectrum-owners wouldn't agree with you . . . but the reason is that the ST and Amiga both use the same central processor, a Motorola 68000, and thus the same machine code. This makes transferring an ST game directly to the Amiga comparatively simple.

By contrast, the Spectrum and C64 use completely different chips and machine codes: Zilog Z80 on the Spectrum, NMOS 6502 on the C64. This means the game has to be virtually rewritten anyway to go from Spectrum to C64 (or vice versa), so it might as well be changed.

If you're having problems with hardware, software or life in general, write to **INFORMATION DESK, TGM, *PO Box 10, Ludlow, Shropshire SY8 1DB*.** We regret we cannot give postal replies so please do *not* send SAEs – it'll be a case of goodbye and thanks for all the stamps.

# GUIDE TO INDEPENDENT REPAIR SERVICES

No matter how much you care for a computer, eventually something goes wrong. And you can bet your life it'll happen after the guarantee has expired, so you can forget about sending it back to the manufacturers. In most cases, they won't want to know.

So TGM has compiled a list of ten top computer-repair firms together with details of the machines they service, cost, and warranty.

■ Before packing your computer off to a repair firm, check to see if your local computer dealer can recommend a local repair outfit. It's easier to deal with a local firm, because you can always go round and knock at their door.

■ Failing that, it's time to look at one of the firms in the TGM guide. Phone the company you choose and try and get a rough guide of the cost of the repair, how long it will take – and whether they'll give a warranty to do it again for free if the repair doesn't work.

■ Make sure that the quoted price includes parts, labour, VAT, and return postage.

■ When sending your computer by post, pack it carefully – preferably in the original box – or you could end up paying a lot more than you reckoned.

■ Always include a letter with your address, telephone number and the effects of the fault.

■ Send the whole package by recorded delivery – just 24p on top of the stamp cost – and pay the extra cash for an advice-of-delivery slip (25p if you ask for it when you post the package, 65p if you leave it till later).

That way you know it's got there, you can hassle the repair firm if they claim it's lost in the post, and you can sleep at nights too.

***COMPANY*** **BCL (Best Computers Ltd)**
***ADDRESS*** *Galaxy Audio Visual, first floor, 230 Tottenham Court Road, London W1A 3AP*
☎ (01) 631-0139 or 580-6640
***COMPUTERS REPAIRED*** All 8-bit and 16-bit models including PC-compatibles.
***PERIPHERALS REPAIRED*** All.
***PRICES*** A typical small repair would cost £15-£20.
***WARRANTY*** Six months.
***ADDITIONAL INFORMATION*** Free estimates. Galaxy Audio Visual also sell micros.

***COMPANY*** **The Computer Factory**
***ADDRESS*** *Analytic Engineering Ltd, Unit 18A, Grainger Road Industrial Estate, Southend SS2 5DD*
☎ (0707) 618455
***COMPUTERS REPAIRED*** All major models except Atari.
***PERIPHERALS REPAIRED*** Disk drives and printers.
***PRICES*** £7-£40.
***WARRANTY*** Three months.
***ADDITIONAL INFORMATION*** Free estimates.

***COMPANY*** **GSF Services**
***ADDRESS*** *113 Mountbatten Road, Braintree, Essex CM7 6TP*
☎ (0376) 46637
***COMPUTERS REPAIRED*** All Spectrums.
***PERIPHERALS REPAIRED*** Phone.
***PRICES*** Spectrum 48K £10.50, Spectrum 128K £13.
***WARRANTY*** Four months.

***COMPANY*** **HS Computer Services**
***ADDRESS*** *Unit 2, The Orchard, Warton, Preston, Lancashire PR4 1BE*
☎ (0772) 632686
***COMPUTERS REPAIRED*** All Spectrums.
***PERIPHERALS REPAIRED*** Phone.
***PRICES*** From £14.95.
***WARRANTY*** Three months.

***COMPANY*** **Ladbrook Computing International**
***ADDRESS*** *33 Ormskirk Road, Preston, Lancashire PR1 2QP*
☎ (0772) 21474 or 27236
***COMPUTERS REPAIRED*** Mainly Atari.
***PERIPHERALS REPAIRED*** Printers and disk drives.
***PRICES*** According to machine – for example ST £34.50, XL/130 XE £23 (these prices include VAT).
***WARRANTY*** Phone for information.

***COMPANY*** **MP Electronics**
***ADDRESS*** *Wendling, Dereham, Norfolk NR19 2LZ*
☎ (0362) 87327
***COMPUTERS REPAIRED*** Spectrum, C64, BBC B, PC-compatibles – in fact all major makes *except* ST and Amiga.
***PERIPHERALS REPAIRED*** Printers, plotters, monitors, disk drives etc.
***PRICES*** All-inclusive prices for most machines – 48K Spectrum £15, 128K Spectrum, BBC B and C64 £27.50, PCs from £20-£100+. These rates cover all faults *except* those caused by other people's botched repairs!
***WARRANTY*** Phone for information.
***ADDITIONAL INFORMATION*** Free estimates. £20 overhaul service for 48K Spectrums – MP Electronics replace sockets, keyboard membrane etc and will repair any faults that develop within six months of overhaul.

***COMPANY*** **PM Engineering**
***ADDRESS*** *Unit 8, New Road, St Ives, Cambridgeshire PE17 4BG*
☎ (0480) 61394
***COMPUTERS REPAIRED*** All home computers.
***PERIPHERALS REPAIRED*** Printers, monitors and disk drives.
***PRICES*** Phone. There's a set repair price for each computer, regardless of the fault and including all parts and labour.
***WARRANTY*** Three months.

***COMPANY*** **RA Electronics**
***ADDRESS*** *133 London Road South, Lowestoft, Suffolk, NR33 0AX*
☎ (0502) 566289
***COMPUTERS REPAIRED*** All Spectrums.
***PERIPHERALS REPAIRED*** Phone.
***PRICES*** Spectrum 48K £14, Spectrum 128K £20.
***ADDITIONAL INFORMATION*** RA Electronics also sell components.

***COMPANY*** **Video Vault Ltd**
***ADDRESS*** *140 High Street West, Glossop, Derbyshire SK13 8HJ*
☎ (04574) 66555
***COMPUTERS REPAIRED*** Most.
***PERIPHERALS REPAIRED*** Phone.
***PRICES*** From £19.95, according to machine.
***WARRANTY*** Three months.
***ADDITIONAL INFORMATION*** While-you-wait service in Manchester.

***COMPANY*** **VSE Technical Services**
***ADDRESS*** Mercury Asset Management Youth Enterprise Centre, *8 Nursery Road, London SW9 8BP*
☎ (01) 738-7707
***COMPUTERS REPAIRED*** All Spectrum, Amstrad, Atari and Commodore models.
***PERIPHERALS*** Opus Discovery drive (partner Ian Vaudrey is official repairperson for the Sinclair Discovery Club).
***PRICES*** Rough guide: £12.90 for Spectrum 48K or Spectrum +, £14.90 for Spectrum 128K, £15.90 for Spectrum +2, £21.90 for Opus Discovery. Prices include parts, labour, VAT and return postage.
***ADDITIONAL INFORMATION*** VSE Technical Services is run by young people with the help of a south London Youth Enterprise Centre.

***COMPANY*** **Wight Computing Home Micros**
***ADDRESS*** *122 High Street, Ryde, Isle of Wight PO33 2SU*
☎ (0983) 68978
***COMPUTERS REPAIRED*** Most.
***PERIPHERALS REPAIRED*** Printers and monitors, but check first that the service is available for older models.
***PRICES*** According to the problem.
***WARRANTY*** 90 days.
***ADDITIONAL INFORMATION*** Wight Computing will also check, clean etc computers which are not obviously faulty.

***COMPANY*** **WTS Electronics**
***ADDRESS*** *5-9 Portland Road, Luton, Bedfordshire LU4 8AT*
☎ (0582) 458375
***COMPUTERS REPAIRED*** Spectrum, Commodore, BBC, VIC20, Amstrad CPC 464.
***PERIPHERAL REPAIR*** Phone.
***PRICES*** £14-£32, depending on machine.
***WARRANTY*** Three months.
***ADDITIONAL INFORMATION*** WTS Electronics promise to complete the repair within one week from the day they receive the machine.

**Attention repair firms:** If you would like a mention in the Back Bytes Repair page, please send the relevant details to Back Bytes, TGM, *PO Box 10, Ludlow, Shropshire SY8 1DB*, including a phone number and the manager's name (for our files).



## Joystick on the rocks?

Waggling is bad for you – even the most reliable joysticks can break after a few months' use, because there's so much strain on the moving parts. But now **Roebuck Designs** offer a £4.50 replacement service for all models.

Just send in your damaged stick, and Roebuck will quickly send back another of the same model – second-hand, but working perfectly. They'll then keep yours, repair it later, and send it to another customer.

The £4.50 price includes return postage.

Roebuck Designs: *Victory Works, Birds Hill, Letchworth, Hertfordshire SG6 1HX* ☎ (0462) 480723 or 480929.

# UNCLE MEL'S TRIVIA QUIZ

**1)** A weapon codenamed 'Valkyrie' has been illegally used in the UK by the security forces. What does it fire?

**2)** In which futuristic films do the following characters appear: Jonathan E., MCP, Zed?

**3)** Which of the following planets does not feature in *Knight Tyme*: Naff, Bingo, Limbo, Plop Plop?

**4)** According to the artwork on Infogrames *Operation Neptune*, what happens to the hero's testicles?

**5)** In 1967, George Lucas made a 20 minute SF short fo rhis college degree. It was refilmed in 1970 under which alphanumeric title?

**6)** Who is responsible for the current pop single *The Hacker*? **a)** Crackers and Wynne, **b)** Clock DVA, **c)** Harry Enfield?

**7)** What have Codemasters, Alternative and the House of Lords got in common?

**8)** What is the maximum number of hours a day for working at a VDU, as recommended by the United Nations International Labour Organisation?

**9)** What is CD4X?

**10)** Name the software title impounded by the British Airport C25 Porn Squad last November, to 'protect the youth of today'.

**11)** How much did PC sales clock up during the whole of 1988 in the UK? **a)** £1 billion, **b)** £50 million, **c)** bribing The Filth is illegal.

**12)** Name the best selling video of 1988, **a)** *Cannibal Zombie Double Glazers From Ludlow*, **b)** *Workout the Charles Hawtrey Way*, **c)** *Watch With Mother.*

**13)** Unscramble these transvestite sports simulation endorsements, LADY PEE BRESTER, SLAG MEL-LINEN, LADY P.SNOT-HOME.

**14)** What's hard and covered in chocolate?

**15)** What have the following got in common: Dr Jekyll and Mr Hyde, Frankenstein, The Invisible Man, Anita Ekberg.

**16)** Which software houses sound like **a)** a disgusting French wine, **b)** a Stravinsky ballet, **c)** extremely small ladies of easy virtue?

**17)** What is remarkable about the Microprose representation of the F-19 in *Project Stealth Fighter*?

**18)** True or false. Mercy Dash is based on a real life character in the software biz?

**19)** Again Again have brought *The Munsters* to the computer game. Name The Munsters, and give their address.

**20)** What have Rainbird, Marillion and Surreal Madrid got in common?

**ANSWERS**

1) Sound
2) *Rollerball, Tron, Zardoz*
3) None. (Pathetic isn't it?)
4) They explode
5) *THX 1138*
6) Clock DVA
7) Grand Prix
8) Four hours
9) The next generation of compact discs from Nimbus Records, storing up to 4 hours of digital sound
10) *Sex Vixens From Space*
11) £1 billion!
12) *Watch With Mother*
13) Peter Beardsley, Nigel Mansell, Daley Thompson
14) Rolocop
15) They all starred opposite Abbot and Costello
16) Beau Jolly, Firebird, MicroProse
17) The outward appearance and cockpit operational systems shown in the program are still classified by the U.S.A.F.
18) False. Mercy Dash *is* a real life character in the software biz
19) Herman, Lily, Grandpa, Eddie, Marilyn. 43 Mockingbird Lane
20) Fish

# COMPETITION RESULTS

## THE UNBELIEVABLE ELITE COMPETITION

**Winner** receives a £250.00 sports Voucher plus goodie bag. **William Callaghan**, Tipton DY4 8AS.
Runners up to receive an Elite prize pack
**Simon Brown,Portsmouth PO4 9NF;K Bouali,London SW17 8LD;Malcolm Stevenson,Hartlepool TS25 3PT;Dean Betts,Kent TN8 6BN;Chris Mallard,Torpont PL11 2PP;William Lines,Walsall WS1 3AR;Stephen Ottewell,Derby DE2 6TE;Steven Smith,Stourbridge DY8 3BX;Alvaro Ciglia,London SW11 2JR;Mark Shaw,Cannock WS12 4SZ;Steven Dawson, Blackburn BB6 7NH;Sean Glover,Peterborough PE6 0TJ;Nicholas Young,Saddleworth OL3 5EG;Michael Lacey,Retford DN22 7XP;Nathan Powell,Kent BR3 3PW;D Oroson,Stoke-on-Trent ST1 3DD;Thomas Vannozzi,Hampton TW12 2UQ;Alan Lau,Leicester LE5 6AR;Robert Sewell,Sheffield SI0 5TA;J Singh,Bradford BD9 4EA.**

## THUNDER BLADE RECRUITMENT COMPETITION

**Five** winners receive a pair of tickets to Combat Zone for any day they choose, courtesy of US Gold, plus a Thunder Blade T-Shirt. **Douglas Moore**,Birmingham B30 2HF;**Alan Packard**,Essex RM12 5LL;**A Adams**,Luton CU4 9HJ;**Mark Shaw**,Cannock WS12 4SZ;**Stephen Graham**, Carlisle CA2 7QB; ten runners up to receive a Thunder Blade T-shirt:
**Jason Mann,Borehamwood WD6 4TF;Clive Fulcher,Peterborough PE6 0TW;Rafael Galili,Kinston-upon-Thames KT1 2JN;S Lee,Guilford GU2 5UT;John Shearing,Surrey RH9 8NE;Barry Wooffitt,York YO1 4DA;Tony Lo,Liverpool L15 7LF;Jeffrey Wong,Sale M33 3QP;Martin Owen, Gwywedd LC55 2CR;Alan Lau,Leicester LE5 6AR.**



## BOMBUZALED COMPETITION

**Image Works** give a bumper bundle of boardgames plus a deluxe Image Works goodie bag to the winner, who is **Richard Dowling**, Cheshire WA13 0RD.
The first five runners up each receive Rubik's Clocks and goodie bags:
**J P Neale,Sutton SM2 6EU;J Barayen,London N16 6NJ;R Purvis,St Saviour Jersey;Jonathan Barnett,Middlesbrough TS6 8DP;William Callaghan,Tipton DY4 8AS. The next five runners-up each recieve a goodie bag. They are Andrew Martin,Manchester M9 2DS;Lawrence Carvalho,London E8 3SY; Neil Bache,Stourbridge DY8 3YH;G E Thompson,Middlesex HA4 6PU; Mark Hanson,Tyne & Wear SR4 0RT.**

## THE SICKENINGLY EASY ALBEDO COMPETITION

**Loriciels** kindly donated an Amiga A500, won by **Paul Reeves**,Bournemouth BH7 7RW.
20 runners up each receive either 16-bit *Albedo* or 8-bit *Eddie Edwards Super Ski*
**James Jennings,Huddersfield HD4 5LQ;J Hopkinson,Camberwell SE5 8JN;Kevin Peacock,Consett DH8 8DS;J Harrison,Southampton SO1 9AL; M Musto,Clevedon BS21 5ED;Bobby Readman,Kenilworth CV8 1DD;D P Hartland,Kent TN12 5EE;John Sargeant,Blackpool FY5 4HW;Thomas Cretton,Farnham GU9 8DG;Mark Docherty,Burscough L40 5UY;Darren Perry,Essex CM16 4LA;Thomas Vannozzi,Hampton TW12 2UQ;A Thacker, Walsall WS8 6HZ;Stephen Sayers,Lydney GL15 5LJ;George Fox, Clydebank G81 3JQ;Wyatt Austin,Bury St Edmunds IP31 3RY;Carl Thompson,Ryton N40 3HU;A J Nicholson;Whitley Bay NE26 3JW;David Bardwell,Gt Hormead SG9 0NU;Peter Henderson,North Shields NE29 8BU**

## DARK FUTURE COMPETITION

**Games Workshop** offered 12 ready-to-play Dark Future kits plus a model to the winners, who were: H W Cheung,Falmouth TR11 3HG;Andrew Dalli,London SW8 1QT;S Lee, Guilford GU2 5UT;Stephen Dawkins,Rutland LE15 9RR;D Clark,Lincoln LN5 9BZ;Nicholas Colledge,Nuneaton CU10 0EJ;David Oldcorn,Preston PR3 5DD;Peter Eaton,Tadly RG26 6TT;Adrian Wiltshire,Gwent NP6 3JJ;Simon Mercer,Kent DA5 3AT;Richard Normington,Bradford BD12 8PZ;David Bardwell,Gt Hormead SG9 0NU.
**The 8 runners up received Dark Future Kits. Marco Ciglia,London SW11 2JR;Roger Louis,Croydon CR0 6BQ;Matthew Clark,Quorn LE12 8BY;John Morgan,Southall UB1 2UE;Paul Matthews, Stevenage SG1 5RP;Stephen Sayers,Lydney GL15 5LT;C J Dara,Lincoln LN2 3LH;Colin Sumsion,Market Rasen Lincs.**

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# Are you shooting comfortably?

**If so, why not enjoy a little killing? Jon Rose believes games are numbing us to violence.**

Haven't we heard it all before? Some killjoy from the Mary Whitehouse school comes along and gives us a lecture on how everything from *Barbarian* to *The Wolfman* corrupts young minds and whoops, before you know it it's cold showers and prudish evangelicalism for all.

Well now, before the flak comes back let me say that I am fully behind John Gilbert, Managing Editor of Newsfield's science-fiction/horror magazine *Fear*. Like John, I object to an increasingly paternalistic state taking away a fundamental freedom to watch what I want and, within reason, to do what I want.

But where does liberty end and subtle coercion begin? More to the point, in a society whose ultimate motive is profit, who is going to say 'enough is enough'? And if we stop thinking about the issue of violence on computer screens and cinema screens, it won't simply go away – the chances are we'll just end up with another absurd body like Whitehouse's National Viewers' and Listeners' Association.

But let's get one thing straight. People do not emulate the death and destruction that comes out of the box or the computer monitor (well, one or two might but they would have reacted the same way to the penny-dreadfuls of the Victorian era or the horror comics of the Fifties, and you can't legislate on the basis of a few unstable and suggestible people). There simply isn't any evidence to indicate that images of violence breed real violence.

The real danger is desensitisation. Continuous exposure to what has become called 'nastiness' (which is not an appropriate word, but has become an accepted one) on the TV or the computer screen promotes an attitude of moral confusion and mental numbness. This is not a positive mental state. It is a state of vacuousness, passivity and, ultimately, atrophy.

This is the state which helps rocket *The Price Is Right* to the top of the TV charts. It is a state which makes it difficult to question the current norms.

Desensitised individuals do not become pathological killers, nor do they beat up grannies. However, we frequently call shoot-'em-ups 'mindless' – because that's exactly what they are.

The visitor to last year's PC Show was continuously bombarded with persistent images of violence. *Rambo III* and *Red Heat* blasted out all day from a multitude of monitors (that's if you could hear them over the serried ranks of *Operation Wolf* machines – whose primary objective is to machine-gun everything in sight).

## No pain, all gain

But what's so bad about these images? The point was eloquently made by Michael Buerk in his BBC TV documentary about news coverage from South Africa. Everyone is enticed by the titillating, vicarious thrill of violence, but we never observe its *end products*. The insidious nastiness in these fantasies (and entertainment is perhaps more guilty than the news) is that they show us excitement without pain, bullets without blood, and ultimately, death without loss.

Violence on the computer screen is just like violence in other forms of entertainment, but it falls into two camps. Graphical violence (à la CRL's *Dracula*, for instance) is self-explanatory and has been exhaustively dealt with before. But more powerful, in many ways, is the subtle hostility present in many computer games – you could call it implied aggression.

The promotional blurb that comes with MicroProse games such as *F-15 Strike Eagle* and *Gunship* states 'endless hours of constructive entertainment'. The endless hours I'll agree with, but I can't for the life of me comprehend the 'constructive'. Admire an Apache helicopter much as you might, can you really call something armed to the teeth with Hellfire and FFAR missiles and a whopping great chain gun a constructive machine?

What's more, though the onscreen graphics are still pretty crude compared with, say, a video screen, the accompanying manuals and maps make it quite clear just where you are flying and who you are blowing up. These aren't mere blips or space invaders, they're representations of real people in the real world.

Chopper gunners in Vietnam often claimed that the only way they could bring themselves to strafe the jungle below them was to dehumanise the unseen enemy in their own minds. They would pretend they were shooting deer – anything but members of the same species. This is a perfect example of voluntary desensitisation: pretend the violence doesn't matter.

But many people who witnessed the results of their actions ended up suicidal, which must tell us what violence really does when it's not distanced by technology.

Very often that distancing device is the computer monitor. Not so long ago I witnessed Tom Clancy playing the computer version of his bestselling novel *Red Storm Rising*. The game is just like any other but it's all about World War III. That may seem neither here nor there till you realise that this is probably exactly how the next world war would be fought – behind the computer screen, moving armed forces about like pawns on a chessboard.

## A peace of the action

So are games software houses training us for war? Well, maybe not overtly but they sure aren't training us for peace. How many games with the object of peace or reconciliation can you name? A few, maybe. But how many of the opposite persuasion? Thousands.

PHOTO: *Commando* from Twentieth Century Fox



*Acid test: if this scene seems normal, you've been playing games too long*

Of course, you could say that reconciliation-oriented themes simply don't make for good games, that they're not as, well *fun* to play. But is this really true? How many software houses are investing in genuinely *alternative* (and I *don't* mean *Deus Ex Machina*) software which doesn't feature space wars or lone-soldier heroics?

And what about graphical violence on the computer screen? This wasn't an issue till recently because machines weren't sophisticated enough.

Everyone got sick of hearing CRL's Clement Chambers rabbiting on about how *Jack The Ripper* was pushing forward the frontiers of computer software, because we all knew that it, and its 18 certificate, were part of a cheap marketing ploy involving sticking a few sick pictures over some poorly-constructed text. The offence was minimal, anyway, because you couldn't really make out what anything was supposed to be.

Now, however, we have the technology for even more violent entertainment. With faster processors and bigger memories offering ever-better graphics, and with satellite TV and *Captain Power* clones just around the corner, I wonder where these images of destruction will all end, and what they will do to us. I suppose any state of mind would be better than comfortable numbness.

**"We call some shoot-'em-ups mindless because that's exactly what they are"**


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**Going abroad**, must sell Spectrum +2, Cheetah joystick, over 200 games e.g. Target Renegade, Ikari Warriors, plus mags (worth £350). Price £140 ono. Ring 06286 68211 ask for Daniel (after 4pm).

**Amstrad CPC6128**, colour monitor, disk drive, tape recorder, joystick, magazines, £300 worth of software, very good condition, cost £710 altogether, sell for £300. Phone Steven on (0706) 57474. Address: 16 Sandpiper Close, Bamford, Rochdale, Lancs.

**C64**, 1541 disk drive, DPS 1101 daisywheel printer, Euromax Pro joystick, 2 tape decks, £100 worth of software, 8 manuals, a bargain at £350. Phone Stuart after 7-9pm (0329) 665734.

**CBM 64**, disk drive, printer, C2N cassette, all boxed, includes £300 software, dust covers, word processor, games on disk and cassette, paper, Input, various books, carry case, Mega Transfer disk. Worth £1000, bargain £300. Tel: 0268 751460.

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**Spectrum +2**, includes joystick, many games including Target Renegade, lots of magazines. Boxed as new, great condition, will sell for £150 ono. Tel: 0225 20531 or write to: Nathan Walley, 10 Kelston View, Whiteway, Bath, Avon.

**Ninetendo** Entertainment System and Golf, Wico joystick £90. Sega Master System and My Hero, Wonder Boy, Choplifter, World Soccer £90 or both £170 or swap for Atari 520. Phone Derby (0332) 810773 and ask for Paul.

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**Atari 520 STFM**, mags, complete with over £800 software inc. Buggy Boy, Overlander, Virus, Bards Tale, Gauntlet II, Flight Simulator II, Obliterator, Tau Ceti, Thundercats etc. £300 ono. Tel: BP Auckland (091) 606135 after 6pm.

**Atari ST software** for sale, very latest £3 each. Contact: PO Box 69, 2980AD Ridderkerk, Holland.

**Atari ST games** for sale, Buggy Boy, Carrier Command, Dungeon Master, Out Run, After Burner and many others £10 each. Phone Mark 0787 71774 after 4pm. 9 Springfield Road, Sudbury, Suffolk CO10 6PH (P&P 75p).

## SWAPLINE

**Amiga owner** wants pen pals to swap info, tips and games. Contact Jon, 41 Windsor Road, Normanby, M'Bro, Cleveland TS6 0RE. I will try to answer all letters.

**Attention!** Sega and Nintendo owners. Why not swap your old cartridges for the games you've wanted but couldn't afford. Send a stamped SAE for details to 23 Kingsley Road, Boughton Heath, Chester, Cheshire CH3 5RR.

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## PEN PALS

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**Atari ST contacts** wanted from all over the world. Loads of games to swap, tips etc. 100% reply. Write to: Darren Sutherland, 12 Cardon Drive, Biggar, Lanarkshire ML12 6EZ or phone: (0899) 20821 after 6pm.

**Amiga contacts** wanted from anywhere. I will answer all letters. Write and send your list to: Marko Hannonen, Oritie 2D 39, 01200 Vantaa, Finland.

**Atari ST contacts** wanted all around the world, guaranteed reply. Send list/disks to George, 161 Hedge Lane, Palmers Green, London N13 5BZ or phone me after 2pm on 01 807 0308.

**Amiga user** wants contacts to swap games with. All letters answered. Write to: Tim Connop, 3 Calverley Road, Kings Norton, Birmingham B38 8PW.

**Norwegian** Atari ST user wants pen pals from all over the world. I will answer all letters. Write to: Kair Limi, Teksleaasen 33, 3200 Sandefjord, Norway.

**Amiga owner** wants to contact other Amiga owners. All letters answered. Please write to Dave, 23 Park Street, Bordon, Hants. GU35 0EB or give me a ring on (04203) 89849.

**Amiga pen pals** wanted all over the world to swap software. All letter answered. Write to Paul Archer, 125 Holly Bank St, St Helens, Merseyside WA9 1EB. Tel (0744) 35706.

**Atari ST contacts** wanted from all over the world to swap all the latest new stuff. Write to Gary, Flat 3, 23A High Street, Rishton, Blackburn, Lancs. BB1 4JZ. Quick reply guaranteed. Write now, avoid disappointment.

**Atari ST contacts** wanted from all around the world. Guaranteed reply. If interested write to Gary Smith, 110 Lancaster Avenue, Skegness, Lincs PE25 2PL or phone (0754) 66985 after 5.30pm.

**Amiga contacts** wanted around the world. Write to PO Box 419, Hawthorn, Victoria 3122, Australia.

**Atari ST user** wishes to swap hints, tips etc. with other users worldwide. Guaranteed reply. Please write to: Jukka Kosonen, Kumn, 58700 Sulkava, Finland.

**Amiga and PC** owner wants penpals from all over the world. Contact: Aarif Janmohamed, PO Box 845, Dar-Es-Salaam, Tanzania, East Africa.

**Amiga contacts** wanted worldwide. All letters answered. You will not be sorry! Write to Paul Cooke, The Bungalow, Low Kingthorpe, Pickering, North Yorkshire, YO18 7NG, England.

**Amiga contacts** wanted, interests, games, tips etc. All letters will be answered. Write to P. Rance, 10 Pine Close, Canvey Island, Essex SS8 9JL.

**Amiga contacts** wanted anywhere in the world to swap ideas and software. For more info phone: 01 571 9324 and ask for Joginder.

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